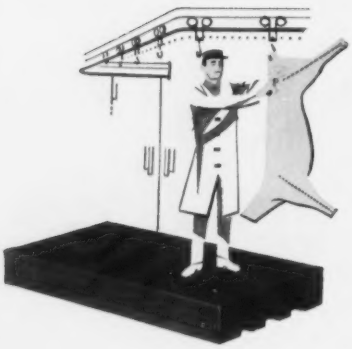
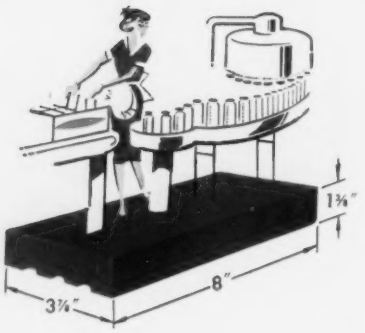
p/a

june 1959

world's largest architectural circulation

PROGRESSIVE ARCHITECTURE





WHERE ALL OTHER FLOORS FAIL···

SPECIFY *Summitville* HEAVY-DUTY ACID-RESISTANT FLOOR BRICK

Floor failure is caused by many things . . . traffic, acids, oils, caustics, vehicles, sanitation maintenance and chemicals all take their toll.

Summitville heavy-duty floor brick is the answer to all these floor problems. In food processing plants, dairies, meat packing plants, bakeries, breweries, institutions, power houses, etc. all over the world, over 30 million sq. ft. of Summitville floor brick have provided years of trouble-free service.

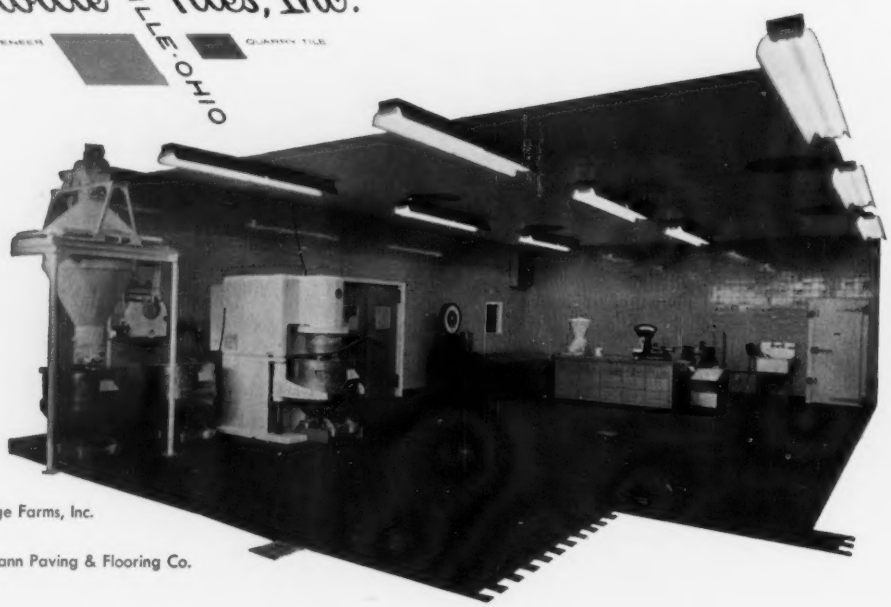
Summitville heavy-duty floor brick is available in five floor surfaces to answer any requirement.

Consult your local ceramic tile contractor or write for the full story of Summitville's acid-resistant floor brick, quarry tile, glazed quarry tile, large unit 12-veneer.

Write for new full-color Catalog Dept. P

SUMMITVILLE·OHIO

Summitville Tiles, Inc.



Bakery: Pepperidge Farms, Inc.
Downingtown, Pa.

Contractor: Drehmann Paving & Flooring Co.
Philadelphia, Pa.

Not a worry in the world of fluorescent lighting with the new Advance fluorescent lamp ballast service warranty program

ADVANCE FLUORESCENT LAMP BALLAST
SERVICE WARRANTY POLICY

That ADVANCE FLB Service Warranty Policy protects against labor costs arising from an excessive number of failures directly attributed to self-contained components within an Advance fluorescent lamp ballast.

When an installing electrical contractor experiences an excessive number of inoperative or non-starting ADVANCE ballasts, the installation should be checked, to the best of the contractor's ability, to see in accordance with the ADVANCE FLB Service Warranty Manual. If it is found the ballast difficulties are not caused by external conditions, contact the nearest ADVANCE representative or cor. Marketing Division of Advance Transformer Co., 2950 North Western Avenue, Chicago 18, Illinois.

Should an Advance Transformer Co. engineering analysis reveal the inoperative ballasts fall within the provisions of this program, an ADVANCE FLB Service Warranty Authorization Form will be supplied. This form must be filled out and sent to the Marketing Division of Advance Transformer Co. for approval.

When the authorization form is approved, it will be returned and new ballasts for replacement will be shipped directly to the job location without charge. After the new ballast have been installed, the inoperative ballasts must be returned directly to Advance Transformer Co. for complete analysis and final approval.

Invoice for allowance must be referred to the Marketing Division, Advance Transformer Co, 2950 North Western Avenue, Chicago 18, Illinois. All authorized allowances will be paid by Advance Transformer Co.

This new ADVANCE Fluorescent Lamp Ballast Service Warranty Program has been designed to protect every fluorescent lighting equipment manufacturer, specifier, supplier, installer and fluorescent lighting user against labor costs arising from an excessive number of failures directly attributed to self-contained components within an ADVANCE Fluorescent Lamp Ballast. Contact your ADVANCE Representative or write for details on this amazing new protection plan.

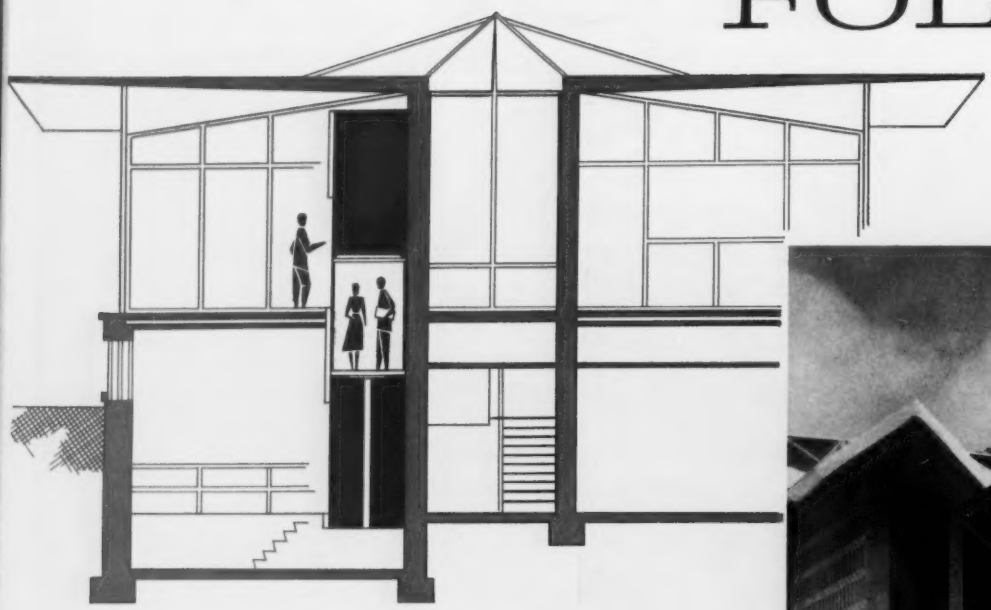
ADVANCE®

World's Largest Exclusive Manufacturer of Fluorescent Lamp Ballasts

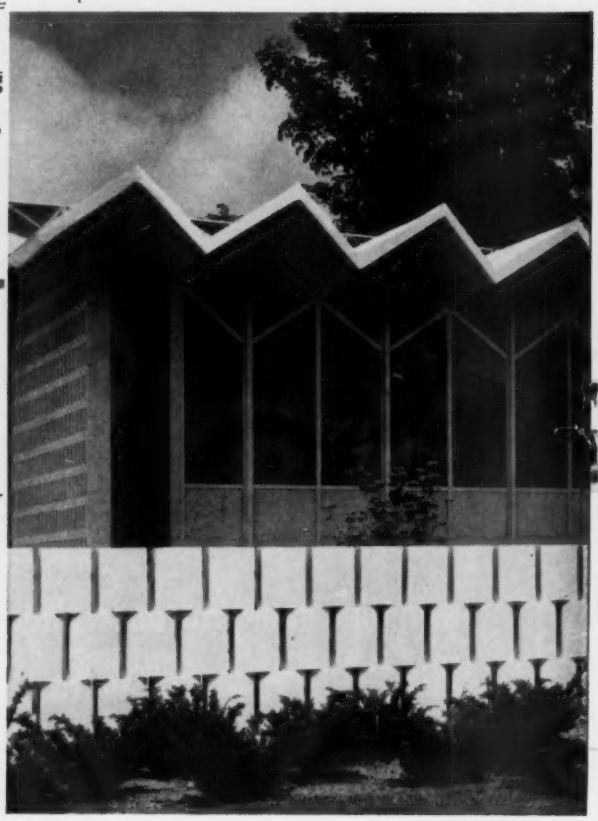
TRANSFORMER CO.

2950 NO. WESTERN AVE. CHICAGO 18, ILL. U.S.A.

FOLDED



The Rotary Oildraulic Elevator needs no penthouse or complicated hatchway construction



Rotary Oildraulic Elevator chosen for building which explores architectural possibilities of concrete

■ Bringing concrete to public attention in an exciting yet dignified way was one important objective in design of American Concrete Institute's headquarters building in Detroit. The impression of lightness and delicacy, with a material normally considered ponderous, was achieved by using a precast folded-plate roof.

Such design did not permit an elevator penthouse, so the Rotary Oildraulic Elevator was chosen. Because it's pushed up from below by an oil-hydraulic plunger, not pulled from above, no overhead machinery or heavy supporting sidewalls are required for this type of elevator.

More and more, architects are turning to this modern elevator to help attain distinctive design in buildings to six stories. Their clients appreciate the relative mechanical simplicity of Oildraulic operation which provides high efficiency and keeps maintenance costs down.

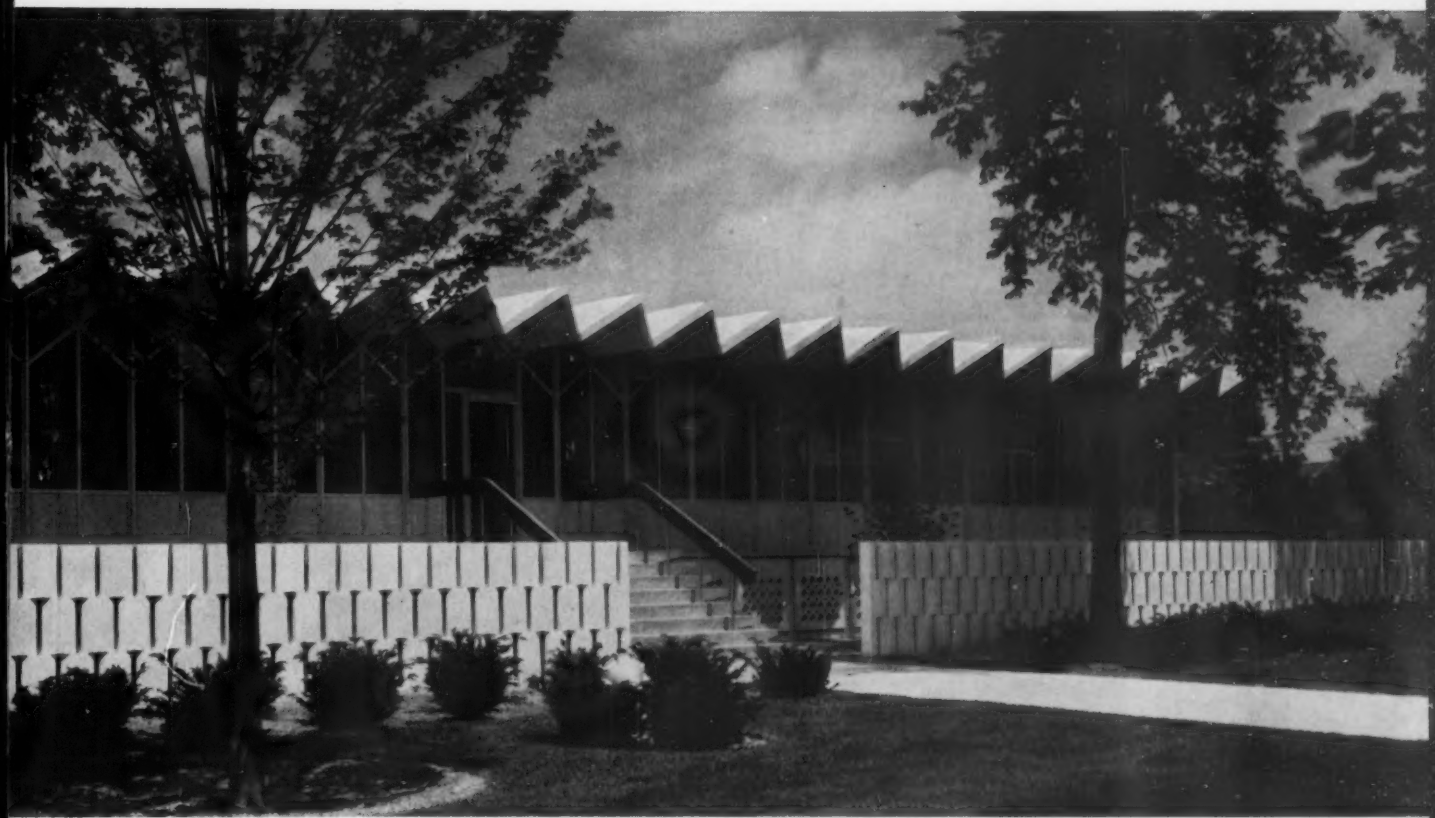
Controls, speeds, capacities and cabs are available for all volumes and patterns of traffic flow. For freight service, Rotary Oildraulic Elevators are designed to handle loads of 100,000 pounds or more economically.

The modern elevator for modern buildings

Rotary® Oildraulic®

PLATE ROOF...

and no elevator penthouse



An international distributor organization provides prompt, expert assistance on plans, specifications and installation. Mail the coupon for catalogs or look for "Rotary Oildraulic" under "Elevators" in your phone book.

ROTARY LIFT COMPANY

Division of the Dover Corporation, Memphis Tennessee—Chatham, Ontario

First name in oil-hydraulic passenger and freight elevators—industrial lifting devices—auto lifts.

SEE OUR CATALOG IN SWEET'S FILES

Elevators

PASSENGER AND FREIGHT

AMERICAN CONCRETE INSTITUTE HEADQUARTERS, Detroit, Mich.

ARCHITECTS-ENGINEERS:
Yamasaki, Leinweber & Associates

GENERAL CONTRACTOR: Pulte-Strang, Inc.

Rotary Oildraulic Passenger Elevator sold and installed by Acme Elevator Co.

MAIL FOR DATA FILE

Rotary Lift Company
1009 Kentucky, Memphis 2, Tenn.
Please send data file on passenger ☐ freight ☐ elevators.

*Name*_____

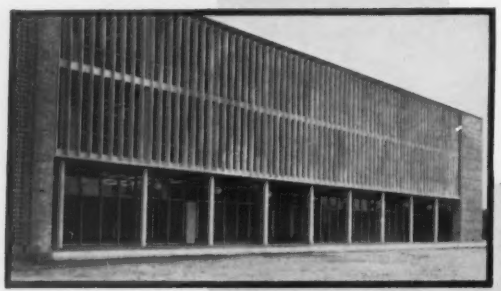
*Company*_____

*Address*_____

THREE FOR THREE IN HOUSTON

TEXAS that is . . .

use Duriron Pipe to handle corrosive waste



Rice Institute Keith-Weiss Geological Laboratories
Architect: George Pierce-Abel B. Pierce, Houston, Texas
Mechanical Engineer: H. E. Bovay, Jr., Consulting Eng., Houston, Texas
General Contractor: Marshall Construction Co., Houston, Texas
Mechanical Contractor: C. Wallace Plumbing Co., Houston, Texas

University of Houston Science Building
Architect: Lamar Q. Cato, Houston, Texas
Mechanical Engineer: Reg. F. Taylor, Houston, Texas

Texas Southern University Science Building
Architect and Engineer: Hedrick and Stanley, Houston, Texas
General Contractor: Knutson Construction Co., Houston, Texas
Plumbing Contractor: Natkin and Co., Houston, Texas

For full information, including complete dimensions, write for Bulletin PF/4c.

These three outstanding Texas universities have solved their acid handling problems by installing Duriron pipe and fittings. For over 30 years Duriron pipe has handled the *tough* corrosives, with an exceptional record for long service life. Many installations have proven that Duriron will outlast the building itself. Duriron pipe and fittings are doing an outstanding job in thousands of hospitals, laboratories, and schools. The next time you need a rugged acid handling pipe, specify Duriron.

DURIRON
LOOK FOR THE NAME ON EVERY PIECE

THE DURIRON COMPANY, INC., DAYTON, OHIO

BRANCH OFFICES: Baltimore, Boston, Buffalo, Chicago, Cleveland, Dayton, Detroit, Houston, Knoxville, Los Angeles, New York, Pensacola, Philadelphia, Pittsburgh, and St. Louis

JUNE 1959

PROGRESSIVE ARCHITECTURE

practice of architecture

P/A NEWS REPORT

churches and temples

the corporate neighbor in the suburb

interior design data

David Bradford Wilkin
Publisher

Thomas H. Creighton
Editor

H. Victor Drumm
Advertising Sales Manager

Charles Magruder
Managing Editor

George A. Sanderson
Feature Editor

Burton H. Holmes
Technical Editor

Ilse Meissner Reese
Associate Feature Editor

James T. Burns, Jr.
News Editor

Barbara J. Melnick
Interior Design Editor

Stamo Papadaki
Art Director

Elmer A. Bennett
Chief Draftsman

Anne Fallucchi
Editorial Production

Keith Aldrich
Research & Promotion Manager

John N. Carlin
Circulation Director

David N. Whitcombe
Assistant Circulation Director

Joseph M. Scanlon
Production Manager

Frederick Gutheim
William Hurd Hillyer
Ada Louise Huxtable
William J. McGuinness
Harold J. Rosen
Bernard Tomson
Contributing Editors

William W. Atkin
Consulting Editor

Adelaide Lewis, Feature
Ann Geddes, Technical
Assistant Editors

Janice M. Helmer
Dora Sue Melton
Margaret Squire
Editorial Assistants

Nicholas Loscalzo
Draftsman

Published monthly by REINHOLD PUBLISHING CORPORATION, 430 Park Avenue, New York 22, N. Y. Second-class mail privilege authorized at New York, N. Y. Professional subscription—$5. (For full data, see page 43.)
Volume XL, No. 6

cover **Sunscreen Sculpture** by Robert Cronbach (see page 154)
7 **It's The Law** by Bernard Tomson
9 **Specifications Clinic** by Harold J. Rosen
11 **Land Use—Fourth Factor of Architecture** By Irving D. Shapiro
15 **Mechanical Engineering Critique** by William J. McGuinness
43 **Views**
65 **First Unit of Award-Winning Arts Center Completed**
69 **Undulating Umbrellas Designed for Moscow Trade Fair**
71 **Architectural Bulletins**
76 **Washington Column** by Frederick Gutheim
78 **Eisenhower Breaks Ground for New York's Lincoln Center**
82 **Financial Column** by William Hurd Hillyer
87 **Products**
92 **Manufacturers' Data**
113 **Four Houses of Worship**
114 **Lutheran Church: Boston, Massachusetts** Pietro Belluschi, Architect
118 **Unitarian Church: Bethesda, Maryland** Keyes, Lethbridge & Condon, Architects Pietro Belluschi, Associated Architect
122 **Lutheran Church: Eugene, Oregon** Belluschi and Skidmore, Owings & Merrill, Architects
124 **Synagogue: Swampscott/Marblehead, Massachusetts** Belluschi and Carl Koch & Associates, Architects
130 **High School: Littleton, Massachusetts** The Architects Collaborative, Architects
138 **Architect's Offices: Detroit, Michigan** King & Lewis Architects, Inc., Architects
140 **Critique: Seagram House Re-Reassessed**
146 **Dorr-Oliver Incorporated: Stamford, Connecticut** Sherwood, Mills & Smith, Architects
150 **Selected Detail: Stairway**
151 **Selected Detail: Window Wall**
154 **Related Design Fields: Sunscreen Sculpture** Robert Cronbach, Sculptor
156 **Sunscreen Sculpture Reduces Cooling Load**
158 **Youngstown Sheet & Tube Company: Boardman, Ohio** Garfield, Harris, Schafer, Flynn & Williams, Architects
162 **Sanford Brick & Tile Company: Colon, North Carolina** Thomas T. Hayes, Jr., Architect
165 **Design Method for Reinforced-Concrete Structures** By P. J. Carroll
166 **Modern Venetian Blinds: Function and Anatomy** By Groff Conklin
172 **Seamless-Roll Terne Roofing** By Thomas J. Boyd
183 **Banks** by Barbara J. Melnick
184 **People's Savings Bank: Bridgeport, Connecticut** Davis, Brody & Wisniewski, Architects
186 **Seattle First National Bank: Bellevue, Washington** Mithun & Nesland and Ridenour & Cochran, Architects
188 **Girard Trust Corn Exchange Bank: Philadelphia, Pa.** Vincent G. Kling, Architect
197 **Reviews**
244 **Jobs and Men**
252 **Advertisers' Directory**
254 **P.S.:** Technical Writing

This floor-ceiling construction resists fire for 3 hours or more

Whenever fire-resistance is a primary requirement—the Bethlehem Open-Web Steel Joist construction shown above is your answer. In stores, schools, hospitals, apartments and similar buildings, this construction provides fire protection of 3 hours or more, as required for Class A fireproof structures.

The top slab is 2½-in. reinforced concrete. Ceiling is 1 in. gypsum-vermiculite plaster applied on metal lath and proportioned in the range 2:1 to 3:1 gypsum to heat-expanded vermiculite by weight. Bethlehem Slabform provides an excellent solid steel centering for the slab in this type of construction.

The nearest Bethlehem sales office will be glad to give you full details on both steel joists and Slabform or any other of the many steel products made by Bethlehem for building construction. And, if you wish, one of our engineers would be glad to visit you and discuss your building. No obligation, of course.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA. On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

BETHLEHEM STEEL

BETHLEHEM STEEL

Powers of an Arbitration Panel

It's The Law Column by Bernard Tomson

P/A Practice of Architecture ***article describing a court case in which an arbitration panel was upheld in compelling performance of a contract.***

Does an arbitration panel have the inherent power to compel the performance of a contract, or are its powers limited to awarding damages? This question is of importance to the architect, as agreements to arbitrate disputes are increasingly found in contracts between owner and architect and between owner and contractor. A recent decision of a New York Appellate court by majority opinion upheld the validity of an arbitration award which directed the specific performance of an employment contract (*Staklinski* vs. *Pyramid Electric Co.*, 6 A.D. (2d) 565).

The *Staklinski* case invovled a contract between a corporation and its largest stockholder. Under this agreement, the corporation had hired the stockholder as its Production Manager for a term of years. The agreement provided that if the stockholder was "unable to substantially attend" to his duties for a period of three months, the Board of Directors of the corporation could, in its discretion, terminate the employment contract. The agreement also provided that "any controversy or claim arising out of or relating to this agreement" should be settled by arbitration.

Nine years before the agreement was to expire, the Board of Directors of the corporation adopted a resolution declaring the Production Manager unable to perform his duties because of disability. The Production Manager petitioned for arbitration, contending that he was not disabled and that the act of the Board of Directors was arbitrary. He requested the arbitration panel to declare the Board's action null and void, and direct the Board to perform the employment agreement by reinstating him.

A majority of the arbitrators with one dissenting, ruled that the petitioner was not disabled and that the action of the Board of Direcors constituted an abuse of discretion. The arbitrators further ruled that the contract was still effective and directed the reinstatement of the petitioner.

On appeal to the courts, the Board of Directors of the corporation contended that reinstatement could not be compelled by the arbitration panel as the petitioner was a key executive in the corporation and, under statutory rule, corporate management is intrusted to the Board of Directors. They further contended that the award directing the reinstatement of the petitioner constituted an interference with the internal affairs of the corporation. The New York Court in rejecting these contentions stated the following:

"The contention that upholding an award, which in effect means reinstatement of the petitioner, offends equity and the statutory rule intrusting corporate management to the directors is a most important one.

This cannot be termed such interference with the corporate management by its board of directors as to constitute a violation of statutes applicable. . . . Nor does the provision for arbitration or any award made thereunder deprive the corporate board of its powers to discharge its duties with respect to the corporate affairs, albeit like any contract it thereatfer narrows the choice open to the corporation."

The corporate Board of Directors argued that if the dispute between it and the petitioner had been submitted to a court of equity, such court would have no power to order the performance of the contract of employment and the reinstatement of the petitioner to his position. The Court in answering this argument asserted that the arbitration panel had greater power in this respect than a court of equity, saying:

"Lastly, there is no rule of law limiting to money judgments the relief which an arbitrator may award, 'even in cases where no equitable decree would be proper if the controversy between the parties were being determined by a court rather than by arbitrators'. . . . It is urged that the nature of the award by the arbitrators and any judgment which confirms it presents problems of impossibility of enforcement. The fact that courts of equity have traditionally refused to grant equivalent specific performance in actions based on contracts is cited as proof of the difficulty. The fact of the matter is that much of equity jurisdiction and relief is patterned on the assumption of the test of the adequacy of the relief at law. This has undoubtedly influenced the areas where equitable relief is denied on other substantive grounds, such as is involved here. Hence, when there is an adequate remedy at law equity will the more quickly refrain from granting the extraordinary relief that has been historically associated with equity. But in the case of arbitration no distinction is made between these forms of relief the dichotomy of which is historically associated with the development of our courts. The granting of specific relief in arbitration does not depend upon the inadequacy of the remedy at law or anywhere else. As already pointed out, as embodied in the arbitration statute and as recognized in our highest court, arbitration may provide relief in circumstances and on conditions which even a court has no power to grant."

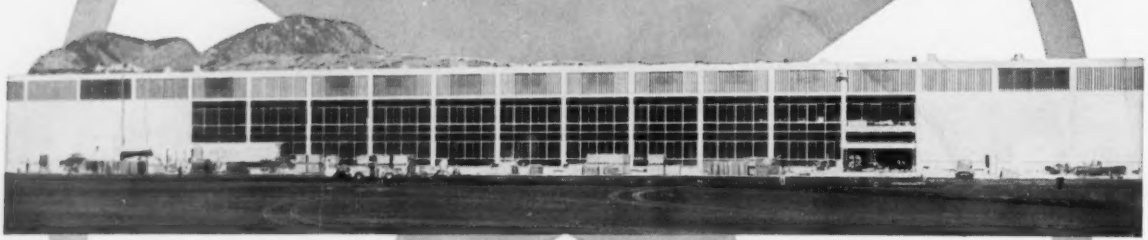
The dissenting judges were of the opinion that because the contract involved was one for personal services, specific performance could not be required by the arbitration tribunal. The dissent stated:

"Specifically, the problem here is whether a court must, on an application to confirm an arbitration award, enter a decree of specific performance of a contract for personal services where the court could not do so were an action brought on the contract. In our opinion, the statutory machinery for the enforcement of arbitration awards contemplates the exercise of a judicial function and not a ministerial one. No judgment should issue from the court which contravenes deeply ingrained principles and rules of equity jurisprudence regarding the specific performance of contracts for personal service. It has long been settled that a court of equity will not decree specific enforcement of contracts for personal services. . . . That power, which courts have eschewed for two centuries, cannot be lightly given to arbitrators. The same conditions which have circumscribed the discretion of the chancery to award specific performance in such instances must be applied to arbitration awards. The established rule as to denial of specific performance of personal services contracts rested upon the difficulty of enforcing such decrees, the fact that the relationship in such contracts was a close personal one involving confidence and loyalty, and the refusal to decree any sort of involuntary servitude. . . . 'It would be intolerable if a man could be compelled by a court of equity to serve another against his will, or if a man could be compelled to retain in his employ one he does not want: courts of equity exercise no such power and grant no such relief.'"

A rule that the parties to a contract for personal services may be compelled to specifically perform is of significance to the construction industry. A contract between owner and architect, consulting engineer and architect, owner and contractor, contractor and subcontractor, etc. all involve elements of personal service. In this area then, arbitration procedure became a more potent weapon in the enforcement of contracts than court action.

"produced for generations to come, not just for today or a decade hence."

— from presentation of Skidmore, Owings & Merrill, Architects for the entire Air Force Academy complex



U. S. AIR FORCE ACADEMY opens WITH MORE THAN ONE MILLION SQUARE FEET OF FLOORS SEALED AND FINISHED WITH *Hillyard* TREATMENTS

The Cadet Field House, at an advanced stage of construction. Hillyard Gym Seal and Finish were chosen for all 8 Academy Gymnasiums, 12 Handball Courts, 12 Squash Courts.

General Contractors for Phys. Ed. buildings: T. C. Bateson, Dallas. Flooring Contractor: Superior Floor Company, Colorado Springs.

Hillyard Seal and Finish were chosen for more than 1,000,000 square feet of oak flooring in 1200 units of Capehart Housing on Academy grounds.

General Contractors: Del E. Webb Constr. Co., Phoenix, and Rubinstein Constr. Co. Flooring Contractor: Superior Floor Company, Colorado Springs.

SEE OUR CATALOG IN SWEET'S ARCHITECTURAL FILE OR WRITE FOR COPY

PRODUCERS COUNCIL

AIA FLOOR TREATMENT FILES

Free. Write for Hillyard revised editions; bring your files up to date.

ASK THE HILLYARD "MAINTAINEER"® to discuss your floor usage problems, recommend treatments, serve as your "Job Captain" during construction. Consider him your own technical consultant. *"On Your Staff, Not Your Payroll"*

A-4

FLOOR HILLYARD TREATMENTS

ST. JOSEPH, MO.
Passaic, N. J.
San Jose, Calif.

Branches and Warehouse Stocks in Principal Cities

Concise/Consistent Specifications Aims Vitiated

Specifications Clinic by Harold J. Rosen

P/A Practice of Architecture ***article discusses two recent publications that appear to be inconsistent with the goal of good specifications.***

Two publications have been recently issued—one produced by a manufacturer and one sponsored by a trade association—that are questionable aids toward the goal of good specifications, which is to clarify specifications by developing concise standards and consistent methods of specifying.

The publication by the manufacturer tends to vitiate the aim of those in the specifications writing field who desire to see concise standards developed. The publication, issued by Kaiser Aluminum Co., is one which creates an additional coding system for architectural aluminum finishes. At present the coding system most widely used by specifications writers to describe machine, chemical, or anodized finishes is the Alcoa system developed by Aluminum Company of America. The code number, when used, eliminates the need for a very descriptive specification process. For example, if an anodic finish is desired, the long descriptive type of specification will include the duration of the treatment, the minimum film thickness, the minimum coating weight per sq in., the acidity of the electrolytic bath, the temperature of the bath and so on ad infinitum. All of the above information can be incorporated in the specifications by means of the simple code number, as: "Exposed aluminum surfaces shall have Alcoa's anodized finish No. 204."

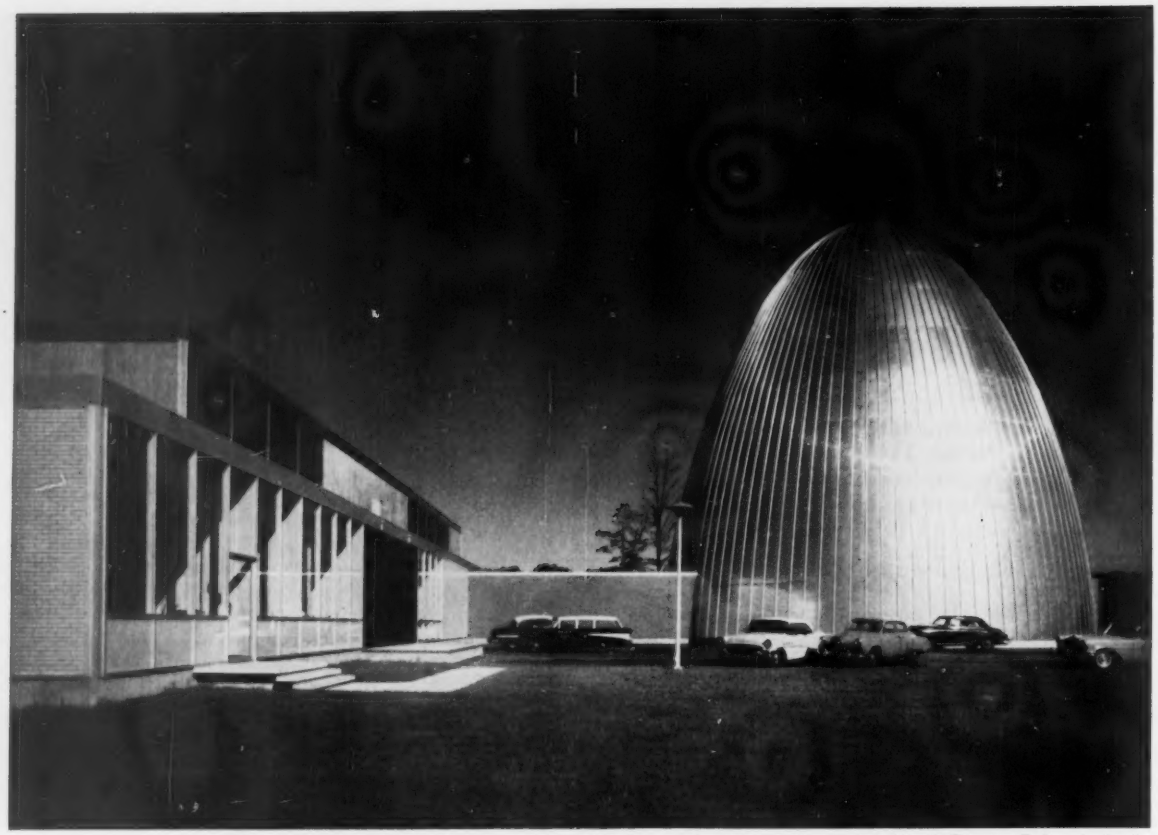
However, with the introduction of the Kaiser coding system, the comparable numbers for a 30-minute anodized finish will be Alcoa No. 204 or Kaiser No. A1. Immediately one can see the various uncertainties which can develop. The Kaiser No. A1 symbol refers to a 30-minute anodic treatment. Alcoa's A1 symbol describes a polishing process. Alcoa has a C1 symbol representing a fine satin finish. The Kaiser C1 symbol describes a caustic etch.

Since the Alcoa coding numbers have been in use exclusively for a long time, there is a good possibility that specifications exist with simply a code number, without the qualification that it is an Alcoa number. I can picture a specifications writer using a previous specification and specifying that "exposed aluminum surfaces shall receive an A-1 finish." With both the Alcoa and Kaiser coding numbers now in effect, will the specifications writer be entitled to an Alcoa A-1 polished finish or a Kaiser A-1 anodic finish?

Should Reynolds Metals Co. inaugurate a system of its own tomorrow, we will certainly have a Tower of Babel concerning architectural aluminum finishes. It appears that the Aluminum Association should get busy immediately to devise a coding system for aluminum finishes which will accomplish for the finishes the same thing that the current alloy designation system performed for the previously incomprehensible methods of alloy designation. Perhaps Kaiser's coding system, although complicating the picture at the moment, will prove a blessing in disguise if it provokes a change in the coding designations. Alcoa's numbers and letters are arbitrary; Kaiser's system is referenced to the type of operation, M for machine finish, C for chemical finishes and A for anodic finishes.

The publication sponsored by Tile Council of America Inc., entitled *American Standard Specifications for Glazed Ceramic Wall Tile, Ceramic Mosaic Tile, Quarry Tile and Pavers Installed in Portland Cement Mortars*, supersedes the *Tile Handbook* originally issued in 1951. The new publication, in replacing the old, does not perform a service to specfications writers. Superseded, retired and eventually out of print, the *Tile Handbook* contained a wealth of information in addition to industry standard specifications. It contained information on glazed and unglazed tile, covering the various types, descriptions, shapes, sizes, thicknesses, and typical uses. It contained information on standard shapes and trimmers for glazed interior tile, unglazed ceramic mosaic tile, paver tile, and quarry tile. It contained a glossary of terms defining items used in the tile industry so that there was a ready reference in the event a dispute arose as to terminology. It contained the U. S. Dept. of Commerce Simplified Practice Recommendation SPR-61 concerning tile. It contained numerous details illustrating the application of tile on various constructions. It contained helpful side comments on the various specification paragraphs that alerted specifications writers to the reason why certain things were specified or what provisions were to be made for unusual conditions. The new publication contains none of these invaluable elements. The committee which promulgated the new publication would have been well advised to reissue the old Handbook in a revised edition to bring it up to date, retaining the old information and incorporating any changes in specifications which they felt to be pertinent.

Change for the sake of change alone was not warranted in this instance. Setting tile in portland cement is an ancient art and the specifications contained in the new publication do not differ materially from the older publication. The buttering method of setting wall tile is eliminated in the new publication, but other than that, the new publication is replete with restatement of almost identical specifications for materials, application, and workmanship. The new publication treats glazed ceramic-wall tile, ceramic mosaic-wall tile, and quarry tile and pavers in three separate specifications. By combining them into a single specification, as is done in architectural specifications, the new publication could be reduced by almost two-thirds, certainly by half.



Enjay Butyl window-sealing tape was employed throughout the newly-erected Atomic Reactor Laboratories in Plainsboro, N. J. Architect: Skidmore, Owings & Merrill. General Contractor: Turner Construction Company.

ENJAY BUTYL

caulking prevents leakage in new Atomic Reactor Lab

Butyl caulking tape permanently seals joints and copings against leakage in this new Atomic Reactor Lab. Tough, weather-resistant Butyl helps provide long-lasting protection against all climatic conditions. Enjay Butyl was chosen to do this job because of its inherent resistance to sunlight, ozone, moisture, aging and vibration.

Architects and design engineers are constantly finding new ways to use Enjay Butyl in building and construction. Its many outstanding qualities – plus its low cost – make it perfect for use in a wide variety of applications. Call or write our nearest office today for a complete list of suppliers.

For complete information... *write or phone your nearest Enjay office. Enjay's extensive laboratories and expert staff are always glad to provide information and technical assistance.*

EXCITING NEW PRODUCTS THROUGH PETRO-CHEMISTRY

ENJAY COMPANY, INC.

15 West 51st Street, New York 19, N.Y.

Akron • Boston • Charlotte • Chicago • Detroit • Los Angeles • New Orleans • Tulsa

ENJAY® BUTYL

Land Use—Fourth Factor of Architecture

*by Irving D. Shapiro**

A P/A Practice of Architecture ***article in which the author argues his belief that land use is such a basic aspect of the design of buildings that it is comparable to the three classic factors of "commodity, firmness, and delight" in importance.***

During the reign of Augustus, some 2000 years ago, Marcus Vitruvius Pollio set down his momentous treatise on architecture. It has since proved to be a work of great value to the students of architecture who followed him, for it has enabled them to acquire an insight into the Western beginnings of the discipline of architecture, as well as the nature of building construction then extant.

While formulating general principles of architecture, Vitruvius suggested that good architecture involved the combination of "durability, convenience, and beauty."[1] Further:

"Durability will be assured when foundations are carried down to the solid ground and materials wisely and liberally selected; convenience, when the arrangement of the apartments is faultless and presents no hindrance to use, and when each class of building is assigned to its suitable and appropriate exposure; and beauty, when the appearance of the work is pleasing and in good taste, and when its members are in due proportion according to correct principles of symmetry."[2]

The touchstone thus created by Vitruvius has scarcely been disturbed since his time, for the architectural writers and critics that followed him have tended to move along similar conceptual channels. Sir Henry Wotton, in 1624, virtually echoed Vitruvius:

"Well building hath three Conditions—Commoditie, Firmnesse, and Delight."[3]

And, some 200 years later, Eugène Viollet-Le-Duc followed closely in the architectural footsteps of both Vitruvius and Wotton by offering,

"There are in architecture—if I may thus express myself—two indispensable modes in which truth must be adhered to. We must be true in respect of the programme, and true in respect of the constructive processes. To be true in respect of the programme is to fulfill exactly, scrupulously, the conditions imposed by the requirements of the case. To be true in respect of the constructive process is to employ the materials according to their qualities and properties. What are regarded as questions purely belonging to art, symmetry, and external form, are only secondary conditions as compared with those dominant principles."[4]

Here, though Viollet-Le-Duc did not hold to the presumably equal importance of the three characteristics selected by Vitruvius and Wotton, his concept of the characteristics which did define good architecture was not unlike that subscribed to by them.

Today, architects still generally accept the fitness of durability, convenience, and beauty to serve as characteristics indicative of "well building." Properly classified, they fall within the more general framework of what have come to be known as the three factors of architecture—structure, function, and esthetics.

Now, one can hardly quarrel with a yardstick of measurement that includes consideration of these three factors. It is certainly true that all buildings should be structurally sound, that they should function in such a way as to facilitate the efficient performance of whatever activities they are intended to house, and that they should be esthetically satisfying. Perhaps there is greater agreement as to just what constitutes a structurally sound and functional building than there is concerning its esthetic merits, but these considerations are not central to this paper. What *is* central to this paper, however, is the usefulness of a concept of architecture which suggests that the satisfaction of merely these three factors is sufficient to evidence the existence of good architecture.

The factors of structure, function, and esthetics have meaning solely when improvements made to the land—buildings, primarily—are considered. But the improvements in themselves constitute only one component part of the unit of space the architect is concerned with in any given design situation, the others being the land to which the improvements are made and the air space above the land. And, since no one of these elements is of any functional use in an urban environment without the utilization of the other two, its "goodness or badness" cannot be judged if it is viewed as though it existed in isolation. For the land, the air space above the land, and the improvements made to the land—corresponding to any given unit of space—must be viewed as an amalgam or compound and not a mixture.

"The land furnishes support, a fixed location, and a street address. The air space provides 'free room' overhead, and the improvements give situation, design, resistance to weather effects, access, electricity, and so on. The improvements release the potentialities of the land and air space overhead. The land and air space make the improvements both possible and useful. All three unite to form a spatial unit equipped to render services."[5]

(Continued on page 13)

---

*Architect, Urban Land Economist

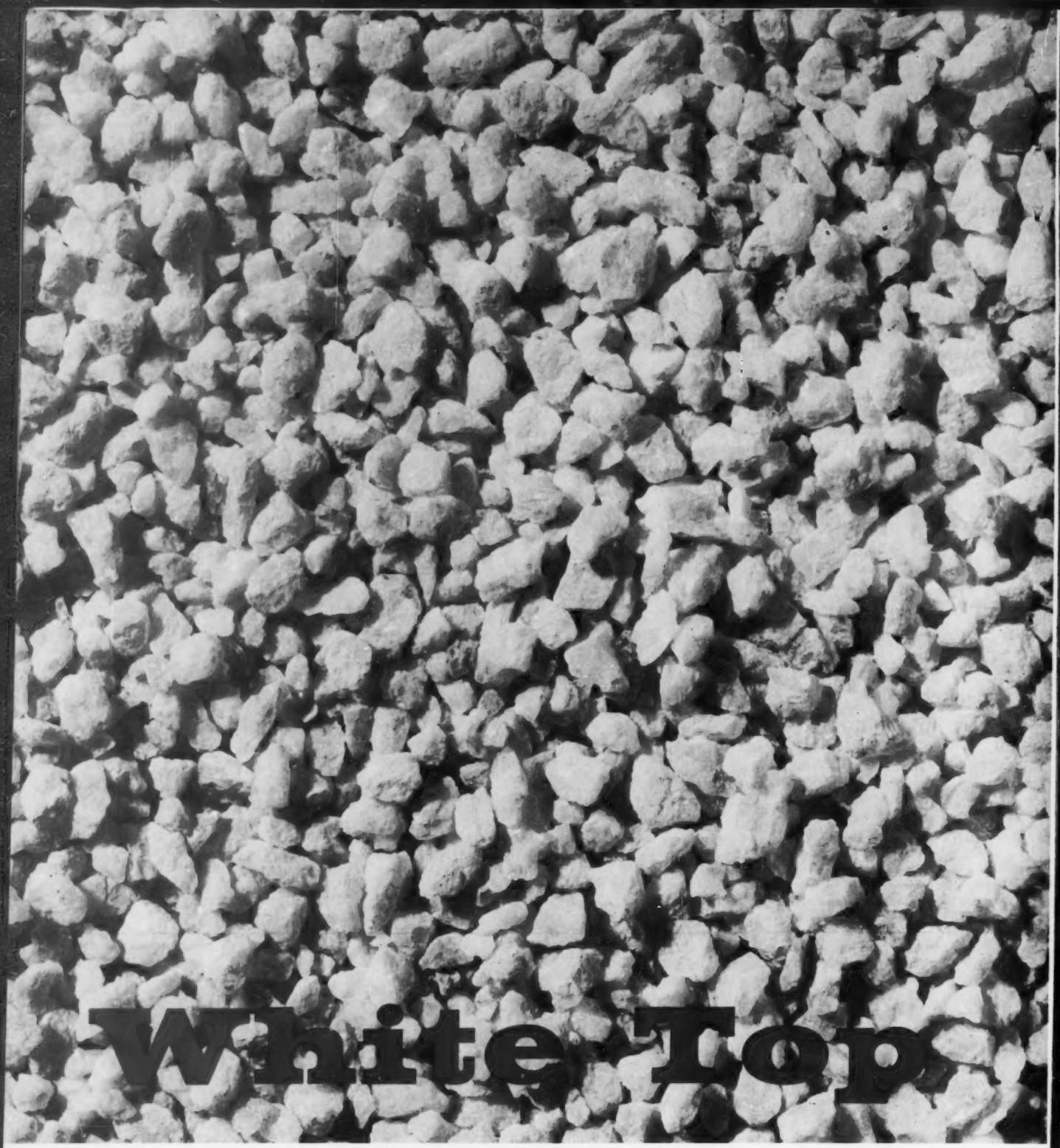
[1] *Vitruvius,* The Ten Books on Architecture, *translated by Morris H. Morgan. Harvard University Press, Cambridge, Mass., 1914 (p. 17).*

[2] *Ibid.*

[3] *Henry Wotton,* The Elements of Architecture, *reprinted by Longmans, Greene & Company, London, England, 1903 (p. 1).*

[4] *Eugène Viollet-Le-Duc,* Discourses on Architecture, *translated by Benjamin Buchnall. Ticknor & Company, Boston, Mass. (Vol. I, p. 448).*

[5] *Ernest M. Fisher and Robert M. Fisher,* Urban Real Estate. *Henry Holt & Co., New York, N. Y., 1954 (p. 18). For example, spatial units which are intended to facilitate the performance of dwelling activities might provide services such as privacy for "bathing, sleeping, and dressing; space for the storage, display, and use of certain types of goods; facilities for television and radio reception, sewing, laundry, and the final processing of goods for consumption; a place to rear children, keep pets, pursue hobbies, and entertain friends." Or, spatial units which are being assembled to facilitate the performance of commercial and administrative activities might offer services such as "shelter and comfort for employees and clients, space for the storage, display, or sale of merchandise, and accessibility to transportation facilities or other firms." Spatial units within which processing and/or fabricating activities are to be performed might provide a host of other kinds of services—tremendous power for the utilization of capital equipment; artificial light, glareless, brighter, and more evenly distributed than natural light; a temperature, humidity, and dust controlled environment to meet the most exacting and rigid specifications; space virtually free of reverberation or echo; and vast quantities of contiguous, unobstructed floor area. And, indeed, activities such as those which will be performed within proposed church and sanatarium spatial units may be facilitated by services of still a different kind—a religious atmosphere of peace and quiet. (See Ibid., pp. 17-20).*



the original marble built-up roofing aggregate

Reflects heat, complements insulation, can be used with asphalt, pitch or any of the new, modern synthetic binders. Practical, efficient, and simply beautiful, sparkling White Top is being specified for plants, office buildings, institutions and residences all over America. There's nothing quite like it . . . anywhere.

For full information and samples, write

CALCIUM PRODUCTS DIVISION

THE GEORGIA MARBLE CO. / TATE, GEORGIA

THE GEORGIA MARBLE CO. 1884 1959 75 Years of Service

CPD

Land Use—Fourth Factor of Architecture (continued)

Therefore, since it is the *spatial unit* which produces the services that are consumed when the improvements are occupied—not the improvements by themselves—satisfaction of merely the requirements of structure, function, and esthetics is inadequate to indicate the existence of good architecture. The satisfaction of an additional factor is necessary, a factor which reflects the contribution made by the land and air space above the land, to the production of services. This factor might well be called land use—the fourth factor of architecture—and its requirement will be satisfied only when the use permitted to be made of the land by the improvements is functionally appropriate to the site, and the volume of space over the land that is enclosed by the improvements closely reflects the volume of enclosed space that can be made use of at that site. Or, in the language of urban land economics, its requirement will be satisfied only when the spatial unit produces the kind and quantity of services demanded at its site.[6]

That a satisfaction of the requirement of this additional factor is essential to the existence of good architecture becomes evident when one considers that only the factor of land use—of all the factors of architecture—reflects the ability of any spatial unit to occupy a useful place in the social, economic, and cultural milieux of the community. For example, one may develop an apartment house that is structurally sound, functions extremely well for dwelling purposes, and which evokes a gratifying esthetic response on the part of all who view it—that is, an apartment house which *completely* satisfies the traditional factors of structure, function, and esthetics. But, if the site at which that apartment house is located is one where services facilitating dwelling activities are not in demand —because dwelling activities at that site bear an improper spatial relationship to all the other activities which, in combination, make up the community—then that apartment house possesses no functional link which will serve to tie it to its human environment.

A similar situation will exist with the construction of an office building which encloses 1,000,000 sq ft of net rentable office space at a site where only 250,000 sq ft are in demand. Here—even if the building were sturdy, possessed a sparkling plan, and presented a handsome appearance—these architectural characteristics by themselves could not operate to prevent the erosion of capital which must result from the existence of such excess capacity.

In the first case described above, an improper use was made of the land; in the second case, an improper amount of space over the land was enclosed. Situations such as these result in social as well as economic losses to the community —a *dis*utility of resources, so to speak— for spatial units characterized by such a functional isolation or such an inappropriateness of capacity to produce services are the architectural failures of today and most probably the urban blight of tomorow. And this is so *despite the fact that the requirements of the traditional three factors of architecture were satisfied.*

Yet, there are those who hold that both situations described above, though deplorable, did not involve architectural failures, for the structures concerned possessed all the characteristics which evidence good architecture. Of those persons, one can only ask: Can an operation be successful if the patient dies because of a faulty diagnosis? Can the architecture of any building be considered good if it is accompanied by an economic and social disutility? I leave it to the profession to decide.

[6] *The assumption is made here that in a "free" economy such as ours, the kind and quantity of services demanded at a site are generally, as a result of unfettered market action, the kind of services and quantity of services that are appropriate to the site despite the fact that certain factors such as zoning ordinances and long-term leaseholds may operate to distort freedom of choice in specific cases.*

Norman Classroom-Packaged System

HEATS AND VENTILATES
with TRIPLE Economy

MARY G. HOGSETT SCHOOL
DANVILLE, KENTUCKY

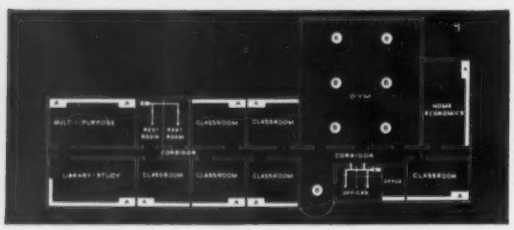
Building Gross Area: **17,000 Square Feet**

Total Building Cost: **$10.54 per Square Foot**

Heating and Ventilating Cost: **.876 per Square Foot**

ARCHITECT: Merriwether, Marye & Associates
Lexington, Kentucky

FITS ANY PLAN



Versatile Norman Schoolroom Heating and Ventilating Systems answer the needs of classrooms large or small. 85,000 or 100,000 BTU/hr inputs are available. Util-i-Duct Bookshelf Sections add work surface and storage space; then Wall-i-Duct Sections save room space.

ECONOMY OF INSTALLATION

Pre-wired, partially assembled Norman Heating and Ventilating Systems are quickly installed room by room. In new schools, like the Mary G. Hogsett school, Norman Systems eliminate expensive boiler rooms, chimneys and tunnels. The $0.876 figure is typical of the low installation costs being realized across the nation. Norman economy grows with the school . . . individual classroom systems are added as required without costly revamping of central system.

ECONOMY OF OPERATION

Norman Schoolroom Heating and Ventilating System:

- Maintains uniform temperature without wasting fuel
- Supplies heat only when needed . . . ventilates automatically
- Each classroom's comfort needs are answered accurately, independently of other rooms.

ECONOMY OF MAINTENANCE

Long trouble-free service is assured by sturdy construction, finest materials and latest A.G.A. approved controls — standard to the industry.

Norman®
PRODUCTS COMPANY

NORMAN PRODUCTS CO.
1154 Chesapeake Ave., Columbus 12, Ohio
We want to learn more about Norman Products for School Comfort. Please send complete information to:

NAME_____
COMPANY NAME_____
ADDRESS_____
CITY_____ ZONE____ STATE_____

See Sweet's Arch. File 30h/No, American Sch. and Univ. Annual C-1/No

Rink's Ventilating Equipment Frankly Displayed

Mechanical Engineering Critique by William J. McGuinness

P/A Practice of Architecture *column on mechanical and electrical design and equipment devoted this month to the mechanical services of the David S. Ingalls Hockey Rink at Yale.*

In modern design, the location and requirements of heating-, ventilating-, lighting-, and—in this case—ice-making equipment are such as to suggest a certain dominance of position. They make a claim for architectural acceptance and development. The recent tendency to assemble the functions of air-handling (heating, cooling, and ventilating) and lighting in a flush-surface hung-ceiling, meets a rude challenge in buildings with cable-suspended roofs whose appearance should be visible from inside and outside, untrammeled by the clutter of complicated or distorted mechanical systems. When the central floor area is claimed by an ice surface, the perimetal areas are occupied by seating, and the low walls provide only plain curved surfaces—very close to the spectators, the equipment must indeed be clearly expressed since it cannot be hidden.

Eero Saarinen & Associates have made a direct and efficient statement of the mechanical functions of the new Yale University Rink. Jaros, Baum & Bolles, Consulting Engineers, developed the systems under the direction of Project Manager Harold Lewis.

Air-handling units over the four corners of the rink blow warmed air comfortably over the heads of the audience. The units respond to local thermostats. The suction sides of their fans recirculate the indoor air and also add fresh air through short ducts from ventilating "buttons" on the roof. Quite self-contained and ductless, except for short stubs, these heaters maintain 55 F in the rink. They operate on steam from the central-college plant. Recirculation of 100 percent indoor air is usual, except during games when fresh air is added. This addition can be varied from 0 to 100 percent of the circulation rate. It has been the experience in some indoor rinks that during humid weather and after resurfacing, fogging appears close above the ice and obscures the visibility of the puck. The four air-supply units aid in overcoming this condition. In addition, two propellor-type exhaust fans near the ridge can be started manually at such times to raise and disperse the fog. They may be regulated to act as gravity-relief vents (with no fan running, but with the damper open) or—by selection of appropriate speeds—may exhaust at one of four rates of flow. The location of the units appears most logical when it is considered that warm air should not be blown down against the ice, nor discharged close to spectators. Small unit heaters serve the entries and the basement locker spaces.

While some rink-surfaces are of a temporary nature, employing plastic pipe in a sand bed, this one is permanent with all-welded, 1¼" metal coils—embedded in a trowelled-concrete slab. A polyethylene sheet separates it from another concrete slab below. Poured in one operation, the upper slab is a single unit with provision for 1½" expansion at all edges. It doubles as a surface to receive ice, or a floor for any other use. The rink seats 2800 for hockey and can accommodate twice that number for other purposes.

Mechanical equipment including two brine-chillers and the brine-circulating pumps is housed in the subgrade story below the seats. This is also the location of an indoor cooling tower which serves the ice machinery. Air for this tower is handled in and out through unobtrusive, flush-type outdoor grills in areas near the perimeter of the building. Peter Carver & Associates were responsible for certain details of the skating-rink construction. The rink season extends from November through March. No space-cooling, other than ventilation, was thought to be necessary.

Extremely uniform lighting is essential to prevent glare on the ice. This is achieved by the use of industrial-type fluorescent fixtures, in groups of four, suspended in horizontal planes.

Photo: Ezra Stoller

NEW SUSPENDED-ROOF HANGAR AT IDLEWILD AIRPORT

Each of the 126 pieces of Roebling prestretched galvanized strand was furnished to exact length (190 FT), thus eliminating expensive "take-up" equipment. Strand diameters include 2-1/2", 2-3/8", 2-1/16" and 1-1/8". Contractor and Erector: White Plains Iron Works, Peekskill, N.Y.

"Spreads its wings" in UNOBSTRUCTED utility

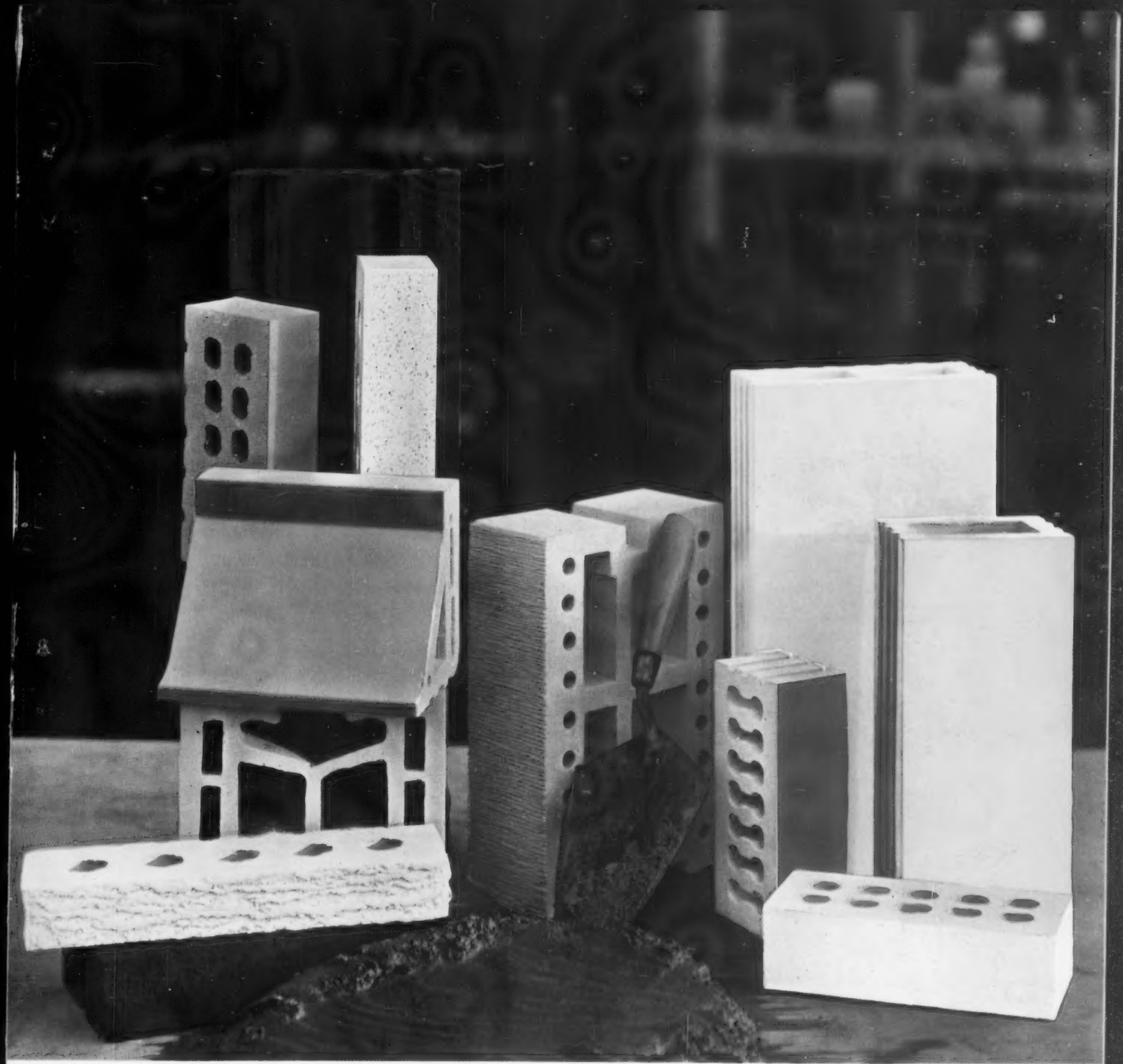
Built by the Port of New York Authority, Hangar 17 will shelter the jet and propeller-driven giants of some of the world's great international airlines.

Here is one of the most convincing examples of the incomparable *utility* of the suspended-roof principle. It lends itself with "column-less" ease to airport hangars and, for that matter, to *any* structure in which vertical supports would hamper the structure's purpose. Bus terminals, garages, stadia, warehouses all benefit from a *free and clear* suspended roof.

Roebling's long interest and experience in suspended roofs and suspension systems of *all* kinds, puts us in the unique position of being able to work with you on any project involving these principles. We invite your inquiries on any phase or factor of suspended roofs. The data, applications and *experience* that we have accumulated will be shared with you to the fullest extent. Write Bridge Division, John A. Roebling's Sons Corporation, Trenton 2, New Jersey.

ROEBLING

Branch Offices in Principal Cities
Subsidiary of The Colorado Fuel and Iron Corporation

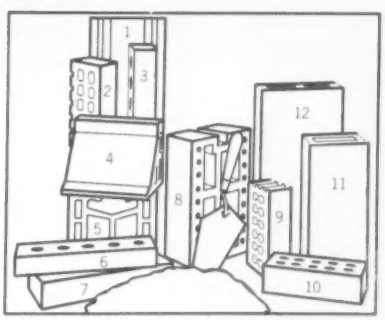


TODAY'S IDEA BECOMES TOMORROW'S SHOWPLACE

. . . when Natco structural clay products are in the picture

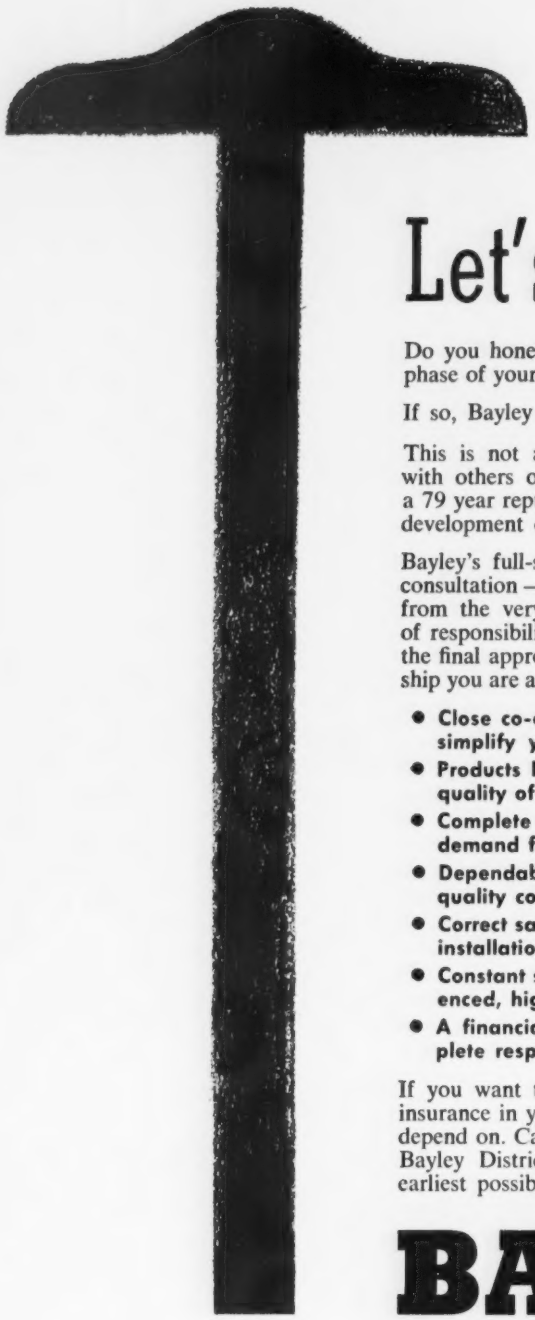
The photo above shows only a portion of the *complete* line of modern, colorful structural clay products manufactured by Natco . . . products designed for use in tomorrow's buildings. Shown are (1) Tex Dri-Wall tile, (2) Standard face brick, (3) Norman face brick, (4) Ceramic glaze Splayed Base, (5) Dri-Speedwall tile, (6) Wave-Tex roman face brick, (7) "SCR" brick, (8) Uniwall facing tile, (9) Ceramic glaze Vitribrik, (10) Ceramic glaze velour face brick, (11) "6T" Ceramic glaze Vitritile, and (12) "8W" Ceramic glaze Vitritile.

Write for one of our new, colorfully illustrated "full line" catalogs.



for the modern line of structural clay products look to natco corporation

GENERAL OFFICES: 327 Fifth Avenue, Pittsburgh 22, Pennsylvania . . . BRANCH OFFICES: Boston • Chicago • Detroit • Houston • New York • Philadelphia • Pittsburgh • Syracuse • Birmingham, Alabama • Brazil, Indiana . . . IN CANADA: Natco Clay Products Limited, Toronto



Let's Talk Straight!

Do you honestly want quality, in its full sense? Quality in every phase of your dealings with windows or curtain-walls?

If so, Bayley can play an important role on your projects.

This is not an idle claim. It's a fact substantiated in working with others on outstanding projects throughout the nation — by a 79 year reputation for reliability and leadership in the design and development of products for the building industry.

Bayley's full-scope *quality* service starts by offering experienced consultation — with a conscientious desire to be of real help — from the very inception of your building project. With a sense of responsibility to you this policy of help continues even beyond the final approval of the finished building. And during this relationship you are assured of:

- **Close co-operation in submitting detailed drawings that will simplify your work and avoid later drawing revisions.**
- **Products built to the latest proven standards of design and quality of construction.**
- **Complete and detailed specifications that will support your demand for quality products.**
- **Dependable delivery of all materials to the job, in top quality condition.**
- **Correct satisfactory installation by Bayley's own experienced installation crews.**
- **Constant supervision of all work, as it progresses, by experienced, highly trained Bayley Engineers.**
- **A financially sound organization that can assume its complete responsibilities of fulfilling a contract.**

If you want to incorporate this type of window or curtain-wall insurance in your building project, Bayley is the company you can depend on. Call in your local Bayley representative — or write the Bayley District Office or Home Office in Springfield — in the earliest possible stages of your plans!

BAYLEY

Windows and Curtain-Wall Systems

The WILLIAM BAYLEY Co.
Springfield, Ohio
Agents in All Principal Cities

DISTRICT SALES OFFICES:

SPRINGFIELD, OHIO	NEW YORK 17, N. Y.	CHICAGO 2, ILL.	WASHINGTON 5, D. C.
1200 WARDER ST.	GRAND CENTRAL TERMINAL	105 W. MADISON ST.	1426 "G" STREET, N.W.
FAirfax 5-7301	MUrray Hill 5-6180	RAndolph 6-5997	STerling 3-3175

ORIGINATORS • DESIGNERS • MANUFACTURERS • INSTALLERS

GREY ENGLISH WALNUT

New! exclusive WOOD GRAINS

FRUITWOOD

CATHEDRAL WALNUT

in Laminated Plastic by CONSOWELD!

Never before such authenticity! Consoweld's new laminated plastic wood-grain patterns bring all of the design-appeal, color, and luxury of richly grained wood paneling. All the warmth and character of the dramatic rich cathedral graining and crossfire highlights are faithfully reproduced.

Applications are endless! It's the answer to horizontal and vertical installations in offices, stores, churches, motels, cocktail lounges, restaurants, lobbies, or other installations where permanent beauty and low maintenance cost are desirable. And Consoweld's exclusive big panel means fewer seams and lower installation cost.

From coast to coast, more than 100 distributors are strategically located to supply your requirements for Consoweld laminated plastic products.

RICHNESS: This office shows the distinctive effect Consoweld wood-grains lend to walls.

CLEAR MAPLE

NATIVE WALNUT

CONSOWELD®
LAMINATED PLASTIC

CONSOWELD CORPORATION, WISCONSIN RAPIDS, WISC.

Decorate with GOLD!

Golden Flecked *FLICKER* in Laminated Plastic by CONSOWELD

COPPERTONE FLICKER

WHITE FLICKER

BEIGE FLICKER

PRIMROSE FLICKER

PINK FLICKER

AQUA FLICKER

Sparkling new Consoweld Laminated Plastic surfacing available in 6 luxurious decorator colors!

Consoweld's striking ***Flicker*** pattern meets the new rising tide of popularity for gold—makes this new decorator color a functional part of today's interior schemes. This delightfully patterned laminated plastic is most suitable for kitchens and bathrooms in homes and motels; for counter and wall applications in hotels, cocktail lounges, beauty parlors, stores, offices, institutions—wherever the sparkle and color fit the decor. Consoweld's exclusive 51″ x 144″ jumbo panel reduces seams and cuts installation costs. For information and name of nearest distributor, mail the coupon.

CONSOWELD LAMINATED PLASTIC

75

CONSOWELD CORPORATION PA-69
Wisconsin Rapids, Wisconsin

Please send me, FREE, Data File Folder and name of my nearest Consoweld distributor.

Name _____

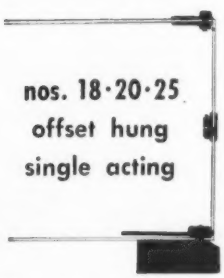
Firm _____

Address _____

City _____ Zone ____ State _____

concealed floor type door closers

4 basic styles in a variety of sizes and types to meet every installation requirement

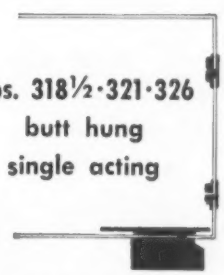


nos. 18·20·25
offset hung
single acting

Allow full unobstructed door opening space and wide door swing to 180°. Has arm locking device for vertical adjustment of door.

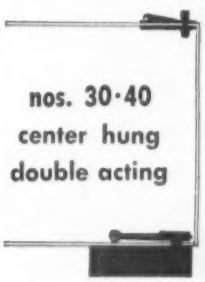
nos. 18½·21·26
center hung
single acting

Hanging hardware completely concealed. Ideal for batteries of doors. Require no mullions allowing greatest open entrance area.



nos. 318½·321·326
butt hung
single acting

For installations where it is desirable to have door hung independently from closer. RIXSON ball hinges with vertical adjustment recommended.



nos. 30·40
center hung
double acting

For doors that swing both in and out. Each swing separately adjustable to local wind and draft conditions. Completely concealed.

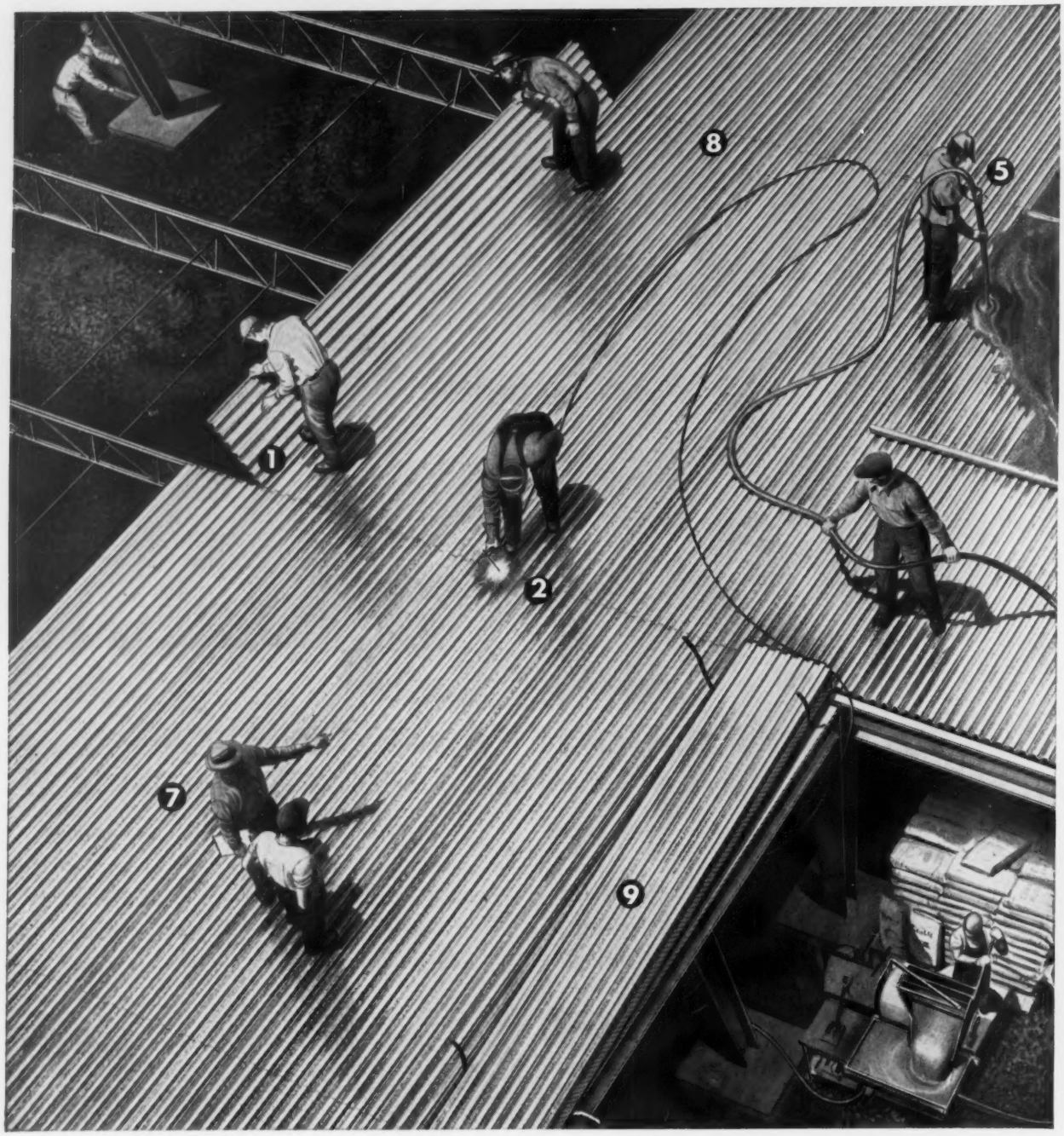
write for complete information and templates

THE OSCAR C. RIXSON COMPANY / ***originators of the checking floor hinge***

9100 w. belmont ave. · franklin park, ill.

CANADIAN PLANT: 43 racine road • rexdale, ontario

How a Tufcor® roof system

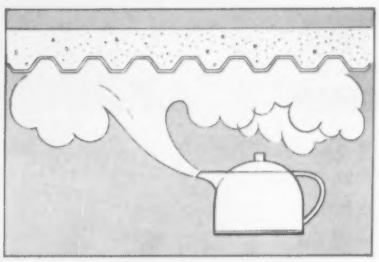


CHECK THESE TUFCOR FEATURES

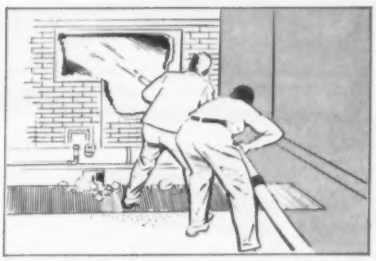
1. **EASY TO INSTALL.** Rigid sheets fall quickly in place, arrive at job in convenient bundles.
2. **FAST PLUG WELDING.** Long 21'6" sheets cover up to 48 sq. ft., mean fewer laps and welds.
3. **GREATER STRENGTH.** Tufcor roof system provides safety factor of 5 to 10 times design load.
4. **SAFE WORKING PLATFORM.** Trades move in as soon as sheets are welded in place. No planking needed.
5. **FAST PLACING OF INSULATION.** As quickly as placing sheets! Less labor. Faster job completion.
6. **FIRM ROOF BASE.** Rigid system provides flat base for built-up roof, speeds roof application.

saves money in every stage of construction

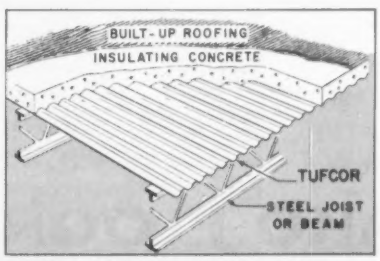
Check features. Compare with other systems. You'll see why Tufcor provides the lowest-cost roof assembly available. Construction is finished in three steps: (1) place Tufcor; (2) pour insulation; (3) apply built-up roof. Many qualified lightweight insulation applicators are now available to do an expert job. Consider, too, services you get from the producers of Tufcor. Granco pioneered in developing present-day floor and roof systems . . . maintains continuous research to keep its engineers, salesmen and distributors up-to-date on roof construction techniques. Like more information? Simply mail the coupon below.



VAPOR BARRIER. Tufcor prevents penetration of warm, moist air, keeps insulating concrete dry and effective. No wall vents or ceiling insulation needed. Heating and air conditioning costs are reduced.



FIRE-RESISTANT. No combustible materials in a Tufcor system! Exposed deck has a UL fire-resistant rating. Compare insurance savings over other systems. Tufcor saves on sprinkler heads, too.



ROOF SYSTEM MEETS ALL NEEDS . . . strength, insulation, permanence, fast, economical construction. System weighs 4 to 6 psf less than most types of roof construction, saves on structural framing.

QUICK AVAILABILITY. More than 100 Granco stocking distributors, located from coast to coast, assure you of fast, dependable delivery and immediate, experienced field assistance.

TUFCOR

FROM THE GRANCO® FAMILY

FLOOR AND ROOF SYSTEMS FOR EVERY TYPE OF FRAMING

7 **ONE APPLICATOR.** One firm places Tufcor *and* insulation. Fewer job phases to coordinate. Fewer delays.

8 **GALVANIZED SHEETS.** Permanent. No painting. Minimum maintenance. Underside *stays* attractive.

9 **FULL LINE.** Tufcor is available in 26, 24, 22, 20, and 18 gage to span any structural layout.

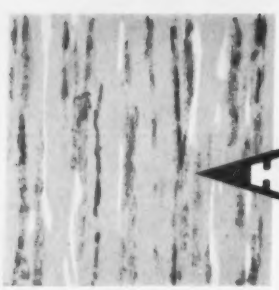
Granco Steel Products Co., 6506 N. Broadway, St. Louis 15, Missouri
A Subsidiary of GRANITE CITY STEEL COMPANY

MAIL FOR FREE TUFCOR MANUAL
Just sign coupon . . . clip to your company letterhead . . . mail today. Att'n: Dept. P-96.

NAME _____

Our catalogs are filed in Sweets!

IN THE MODERN SCHOOL...



HAKO FLOOR TILE

means Low Cost, Long Wear, Easy Maintenance

No other type of flooring gives you so many advantages at such low cost as Hako Asphalt or Vinyl-Asbestos Tile. Extremely durable, Hako stands up under hardest wear even in high traffic locations . . . affords important savings on maintenance . . . is easy and economical to install. And savings begin right away because Hako costs less initially than other types of flooring. For your next school project, consider the many advantages you get with Hako Asphalt and Vinyl-Asbestos Tile.

For full details write Dept. 9-6, P. O. Box 128, Vails Gate, N. Y.

HAKO

HAKO BUILDING PRODUCTS

Division of Mastic Tile Corporation of America

Houston, Tex. • Joliet, Ill. • Long Beach, Calif. • Newburgh, N.Y.

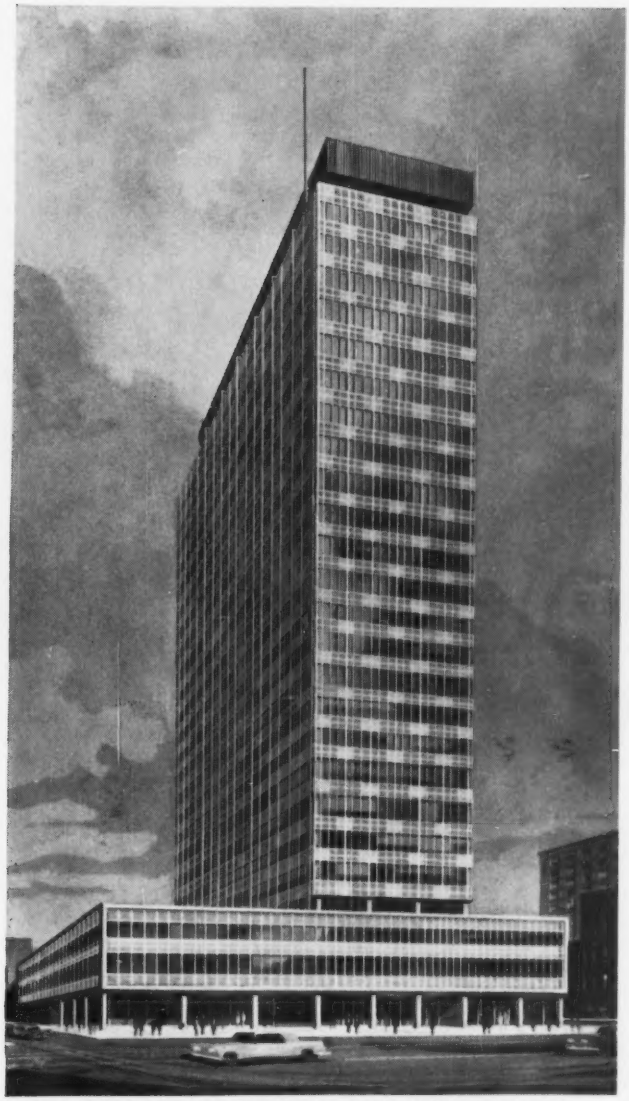
Asphalt Tile • Vinyl-Asbestos Tile • Coronet Plastic Wall Tile

HA38

BRIGGS

the style leader in plumbing fixtures

B E A U T Y W A R E



KROGER BUILDING, Cincinnati, Ohio. Owner: R. E. Dumas Milner. Architects and Engineers: Hedrick and Stanley, Fort Worth, Texas. Plumbing Contractor: Sam P. Wallace & Company, Cincinnati, Ohio.

New Kroger Building to feature over 400 Briggs Beautyware fixtures

Water closets, lavatories, drinking fountains, urinals, sinks—415 fixtures in all will equip the new 25 story Kroger Building in Cincinnati. And all will be Briggs Beautyware, for good reason. The architects selected Briggs Beautyware with an eye to the lustrous durability of Briggs vitreous china, its immaculately sculptured styling, its carefully worked out functional features.

These same advantages can apply to *your* commercial and institutional work. Specify from the complete, easy-to-work-with line designed for Briggs by Harley Earl, Inc. It is handcrafted in high density vitreous china for years of maintenance-free operation. It is rigidly controlled in quality to assure you that it will meet every requirement. Specify Briggs Beautyware —the brand that makes the difference!

Briggs Lawton Urinal provides wash-out operation, integral extended shields, vitreous china strainer and flushing rim.

Briggs Mercury Drinking Fountain is semi-recessed, features angle-stream, anti-squirt, chrome-plated bubbler head.

Briggs Sultan Water Closet gives the advantage of wall-hung installation plus syphon jet and elongated bowl.

BRIGGS

B E A U T Y W A R E

NEW—*the State of Florida Office Building, Orlando, Fla.*

Architects: *Broleman and Rapp, of Orlando.*

Glazier: *Acme Glass Company, Inc., Orlando. Lustragray glare reducing glass adds to the most modern, distinctive appearance of this new structure.*

for modern office buildings

Another **AMERICAN** Lustragray Installation...

the glass that reduces glare and heat without sacrificing vision

The distinctive Lustragray "look" is one that you'll see in the windows and doors of more and more of the new and finer office buildings being erected today.

Lustragray is springing into favor for more reasons than just its high luster, neutral shade, and attractive appearance. Greater working comfort and increased efficiency are the Lustragray benefits that office building occupants can both see and feel.

Eliminating harsh contrasts in brightness levels minimizes eyestrain. Lustragray's glare control does this. Reducing solar heat minimizes fatigue. Lustragray's heat control is responsible. Even with all these advantages, Lustragray is economical.

Consult your phone directory now for your nearest AMERICAN distributor or glazier. Our catalog is in Sweet's. Or write our Architectural Promotion Dept.

Above — *Lustragray glass gives a solid, skin wall effect to the exterior — affording privacy.* **Right** — *From the interior, the gray glass provides "clear-glass," non-glare vision.*

WSW 7615

AMERICAN WINDOW GLASS DIVISION

AMERICAN-SAINT GOBAIN CORPORATION

BLUE RIDGE GLASS

General Offices: FARMERS BANK BUILDING • PITTSBURGH 22, PA.

AMERICAN-SAINT GOBAIN CORPORATION is a merger of the former American Window Glass Company, Pittsburgh, Pa., and the former Blue Ridge Glass Corporation, Kingsport, Tenn. (which was a wholly-owned subsidiary of Saint-Gobain of Paris, France). American Window Glass Division plants are located in Arnold, Jeannette, Ellwood City, Pa.; Okmulgee, Okla. Blue Ridge Glass Division plant is located in Kingsport, Tenn.

See our display

BOOTH 43—in June 1959 AIA Building Product Exhibition
New Orleans, La.

Fire Hazard Reduced!

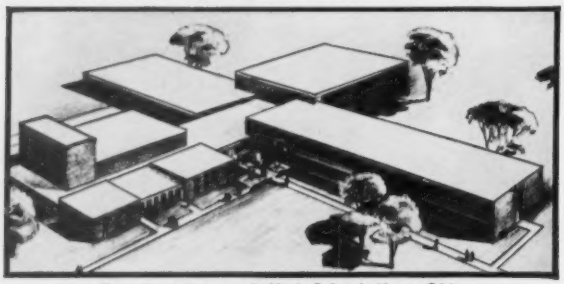
ARCHITECT CHOOSES

Zonolite®

PLASTER FIREPROOFING

for 4 Ohio Schools!

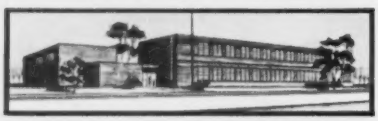
FULTON & DELA MOTTE, ARCHITECTS & ASSOCIATES, CLEVELAND, OHIO



Theodore Roosevelt High School, Kent, Ohio

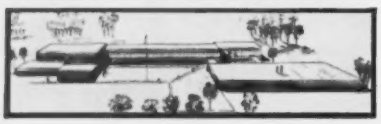
Beachwood
High School
Beachwood, Ohio

•



Melridge
Elementary School
Painesville, Ohio

•



Junior
High School
Parma, Ohio

Now as never before, this country is acutely aware of the need for maximum fire safety in our schools. That awareness is reflected in specifications of the four Ohio schools above. Walls and ceilings are all of Zonolite vermiculite Plaster.

Zonolite Plaster and Acoustical Plastic systems provide the highest obtainable fire ratings as well as insulating and sound deadening properties. Fire-conscious architects, engineers, and school officials should mail the coupon today for free booklet of facts and figures. No obligation, of course.

MAIL COUPON TODAY

FREE BOOKLET TO ARCHITECTS AND BUILDERS

ZONOLITE COMPANY, Dept. PA-69
135 S. La Salle St., Chicago 3, Illinois

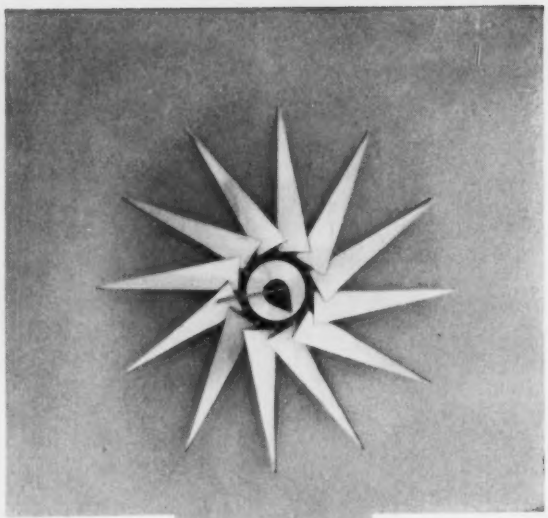
Please rush me your new booklet on Zonolite Plaster and Acoustical Plastic in modern fire-safe construction.

Name_____

Firm_____

Address_____

City_____ Zone_____ State_____



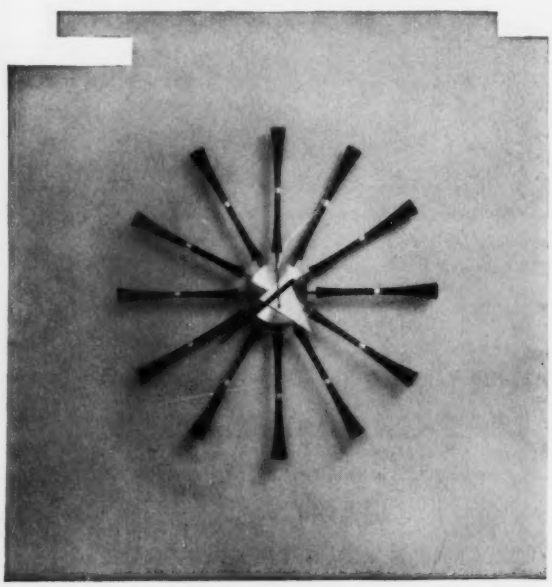
SMART ACCENTS FOR ANY INTERIOR . . . THE WIDEST SELECTION EVER OFFERED

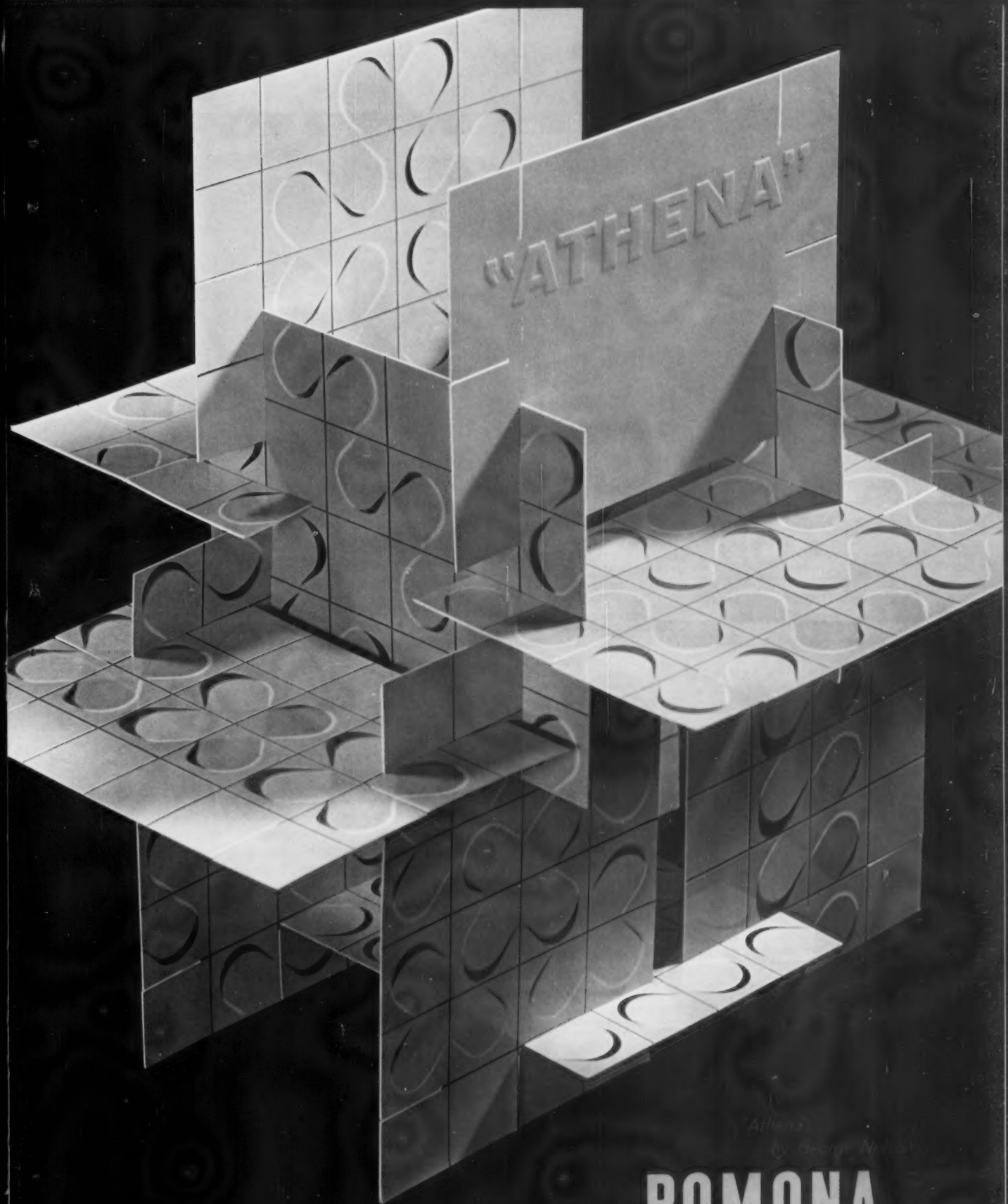
DESIGNED BY GEORGE NELSON—CUSTOM CLOCKS FOR TIME SYSTEMS AVAILABLE

HOWARD MILLER CLOCK CO., ZEELAND, MICH.

NATIONALLY DISTRIBUTED BY RICHARDS-MORGENTHAU, 225 FIFTH AVENUE, N.Y.C.

WRITE DEPT. CP FOR PARTICULARS — EUROPEAN DISTRIB.: FEHLBAUM, ZURICH





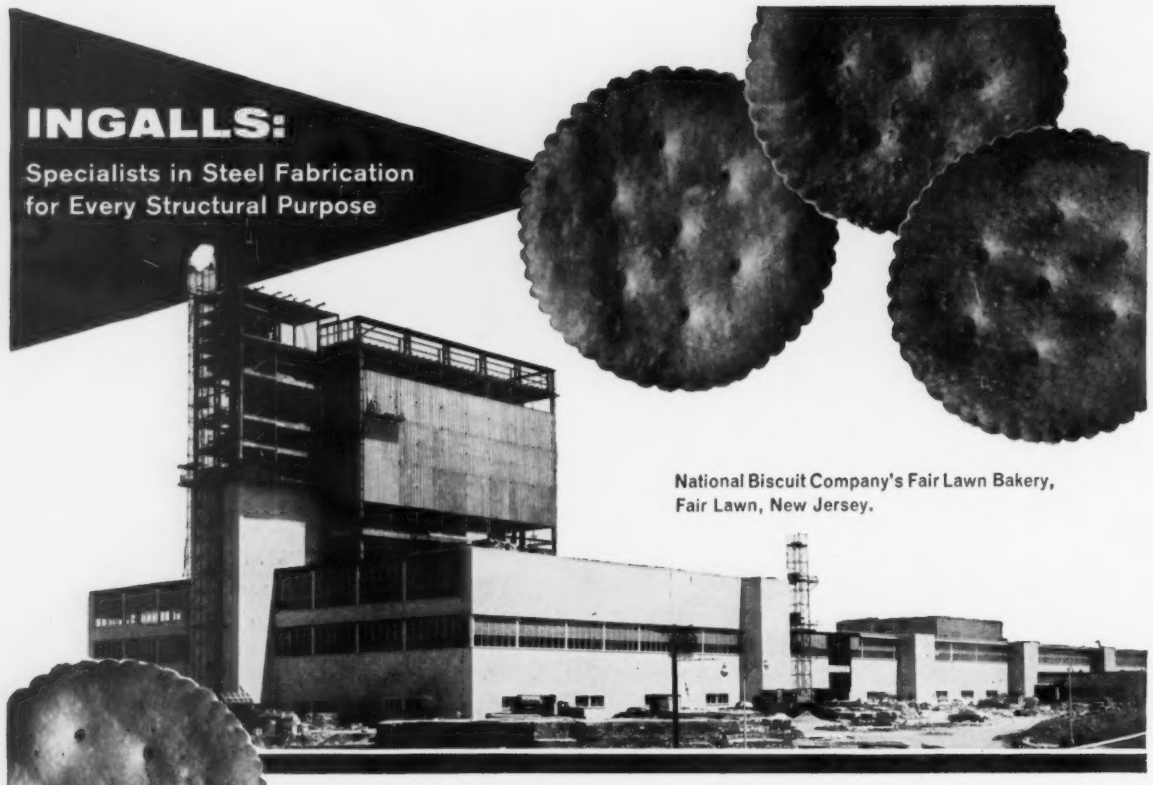
Athena
by George Nelson

Ingeniously simple, yet amazingly versatile . . . "Athena" . . . George Nelson's new 3-dimensional ceramic tile, provides building professionals with a new tool for original expression in Sculptured Tile. With "Athena" (concave and convex) you can create hundreds of different patterns to whet your clients' interest and desire. "Athena" tile and "Laurel Leaf," another brilliant George Nelson design . . . available only from Pomona. 4¼" x 4¼" modules, wide selection of colors. See your tile contractor or write today for free brochure.

POMONA TILE

INGALLS:

Specialists in Steel Fabrication
for Every Structural Purpose



National Biscuit Company's Fair Lawn Bakery,
Fair Lawn, New Jersey.

RECIPE *for*

KING-SIZE CRACKER PRODUCTION

Mix the strength and economy of Ingalls fabricated steel and the National Biscuit Company's massive expansion and modernization program for an expanding Eastern market.

The result: the king-size production capabilities of National Biscuit Company's new Fair Lawn Bakery at Fair Lawn, New Jersey.

Each of the nine 284-foot-long band ovens in this ultra-modern bakery can produce 5,600,000 crackers in one eight-hour shift. Together, these ovens will turn out $60,000,000 worth of NABISCO cookies and crackers annually.

The Ingalls Iron Works Company fabricated 6,000 tons of structural steel for the 1275-foot-long main building, 575 tons of plate work for the flour and sugar storage bins, 110 tons of stainless-clad steel for liquid ingredient storage tanks, and 650 tons of structural steel for the research and laboratory building.

If *your* plans call for fabricated structural steel, call on Ingalls—specialists in steel fabrication and erection for over 48 years.

AISC — American Institute of Steel Construction, Inc. — Founded 1921

Steel Plate Fabricators Association — Founded 1933

THE
INGALLS
IRON WORKS
COMPANY
Executive Offices
BIRMINGHAM, ALABAMA

INGALLS INDUSTRIES ARE:
The Ingalls Iron Works Company, Sales Offices: New York, Pittsburgh, Chicago, Houston, New Orleans, Atlanta • **The Ingalls Steel Construction Company**, Sales Offices: New York, Chicago, New Orleans, Pittsburgh, Houston, Atlanta • **Birmingham Tank Company**, Sales Offices: New York, Pittsburgh, Chicago, Atlanta, New Orleans, Pascagoula
The Ingalls Shipbuilding Corporation, Shipyards: Pascagoula, Mississippi; Decatur, Alabama • Sales Offices: New York, Chicago, Washington, Houston, New Orleans, Atlanta

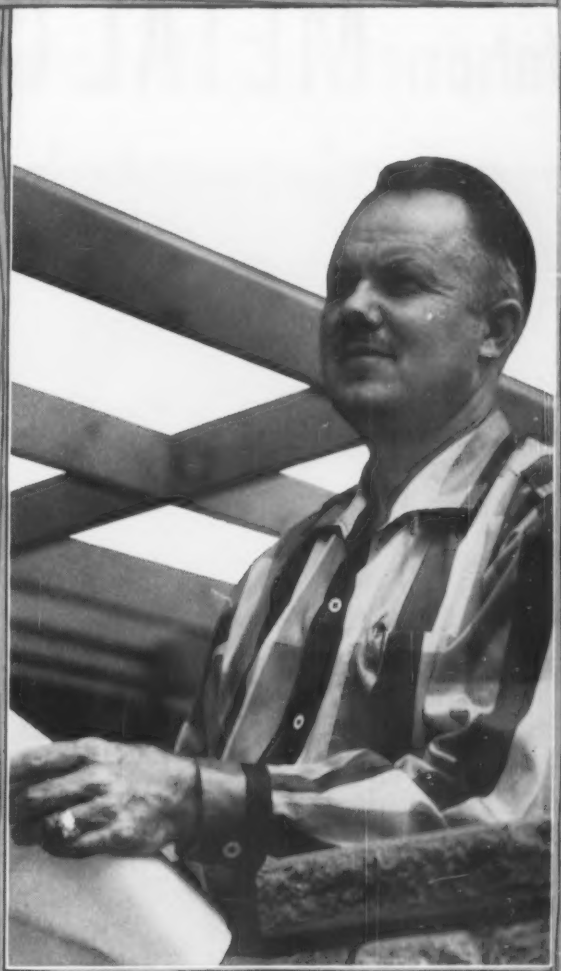
"New homes aren't really up-to-date without concealed telephone wiring"

—SAYS BURTON W. DUENKE,
CUSTOM BUILDER OF ST. LOUIS, MISSOURI

"Nowadays," says Mr. Duenke, "it's *ideas* that sell homes. The modern house-hunter is looking for more than a roof over his head and X number of bedrooms and closets. He wants smart, functional design —and proof that the house is planned to meet his future needs. Concealed telephone wiring is the kind of idea he likes."

The Burton W. Duenke Building Company has completed over 1000 homes since 1947. Its current project is Harwood Hills, a gracious community of homes in the $26,000 to $40,000 price range, located in suburban St. Louis, to the west. Every one of these modern dwellings features *six* or *seven* concealed telephone outlets.

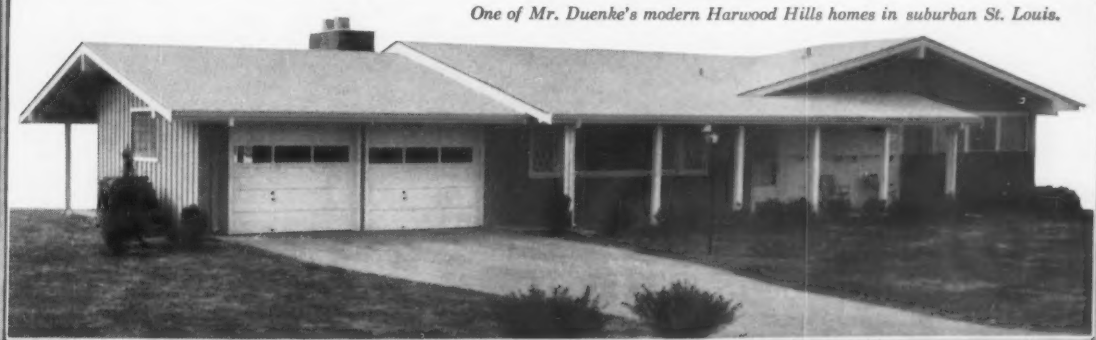
"We don't look on concealed telephone wiring as a luxury item," says Mr. Duenke. "It's a necessity in doing a workmanlike job of building today's home. It provides for the homeowner's future telephone needs, and keeps his home more attractive. What's more, it's a kind of sales feature that costs us very little to offer."



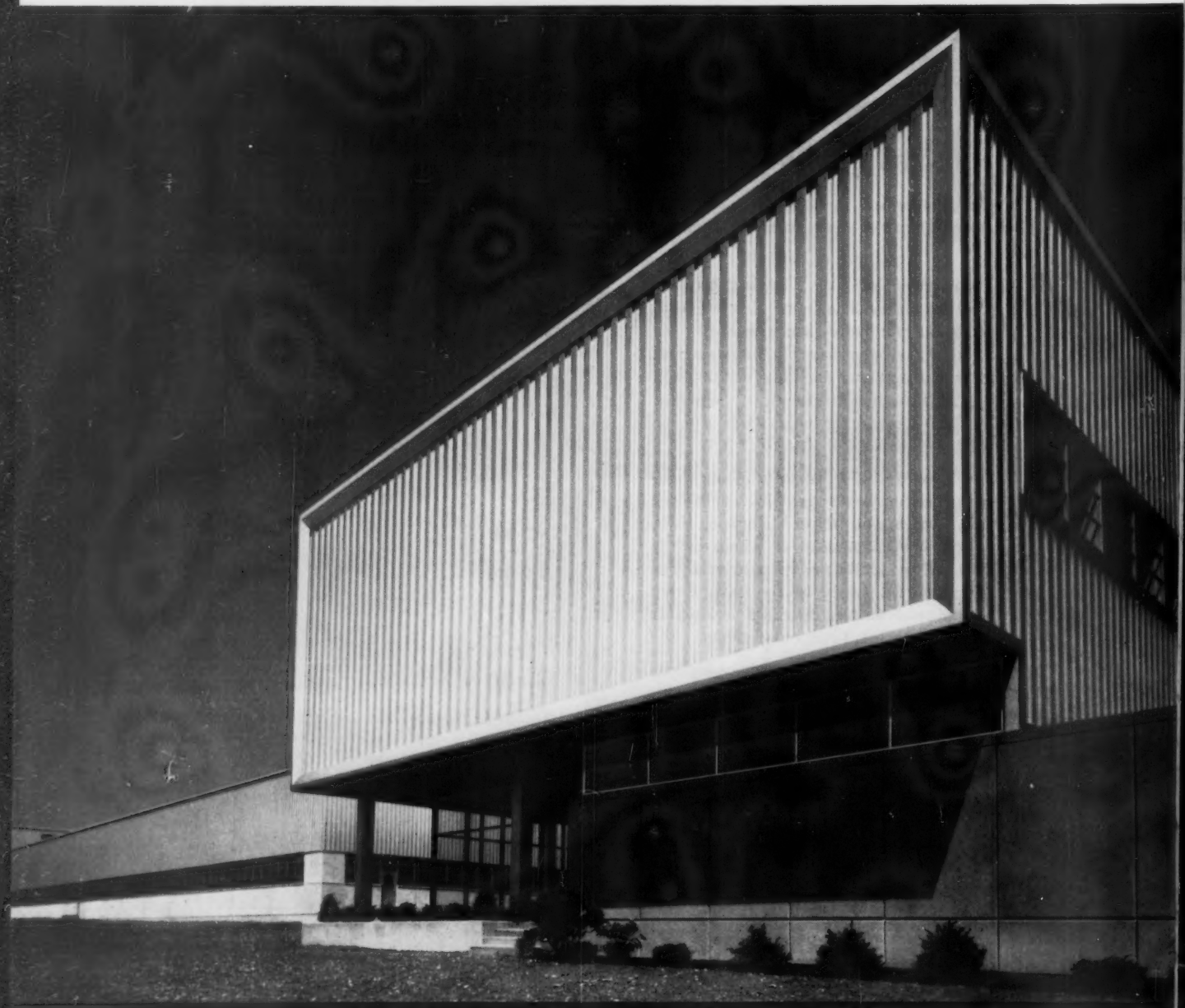
Your local Telephone Business Office will gladly help you with telephone planning for your homes. For details on home telephone installations, see Sweet's Light Construction File, 8i/Be. For commercial installations, Sweet's Architectural File, 32a/Be.

BELL TELEPHONE SYSTEM

One of Mr. Duenke's modern Harwood Hills homes in suburban St. Louis.



Mahon METAL CURTAIN WALLS



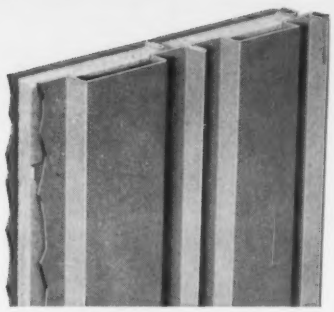
Bright New Plant and Office Building for Pittsburgh Screw and Bolt Corporation, Mt. Pleasant, Pa. Mahon Aluminum Curtain Walls were employed throughout. The Mahon Company also furnished Five Rolling Steel Doors for this Modern Industrial Plant. Engineers and Builders: The Austin Company, Cleveland, Ohio.

Serving the Construction Industry Through Fabrication of Structural Steel, Steel Plate Components, and Building Products

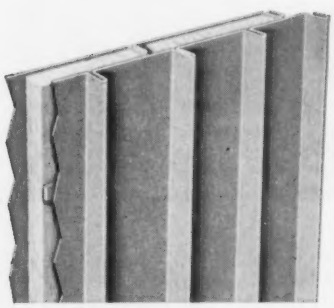
in Bright Metal or Color Offer Designers Greater Latitude in Exterior Treatment!

Mahon Walls can be Erected up to 60 Ft. in Height without a Horizontal Joint . . . Vertical Joints are Invisible

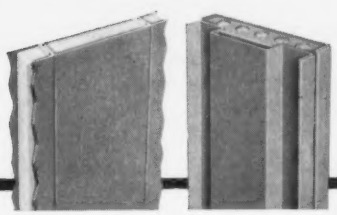
ALUMINUM or STAINLESS
GALVANIZED or PAINTED STEEL



MAHON FLUTED WALL
FIELD CONSTRUCTED



MAHON RIBBED WALL
FIELD CONSTRUCTED



FLUSH FLUTED
MAHON PREFAB WALL PANELS

of Steel and Aluminum

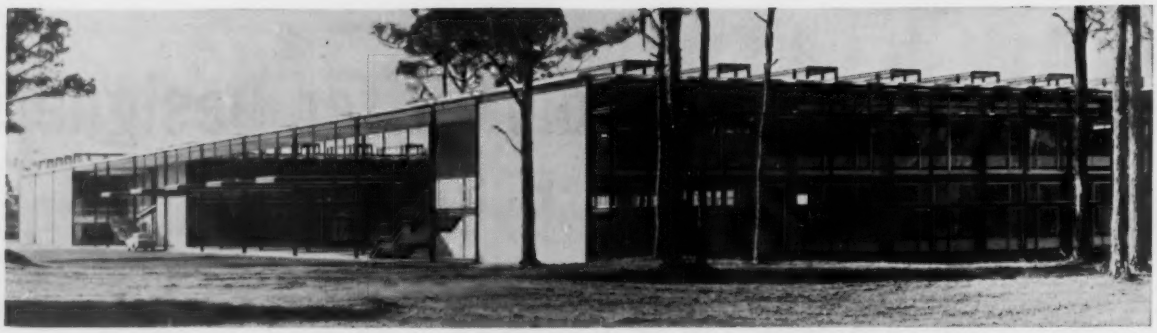
☆ OTHER MAHON BUILDING PRODUCTS and SERVICES:

- Underwriters' Rated Metalclad Fire Walls
- Rolling Steel Doors (Standard or Underwriters' Labeled)
- M-Floors (Electrified Cellular Steel Sub-Floors)
- Long Span M-Decks (Cellular or Open Beam)
- Steel Roof Deck
- Permanent Concrete Floor Forms
- Acoustical and Troffer Forms
- Acoustical Metal Walls and Partitions
- Acoustical Metal Ceilings
- Structural Steel—Fabrication and Erection
- Steel Plate Components—Riveted or Welded

☆ *For INFORMATION See SWEET'S FILES or Write for Catalogues*

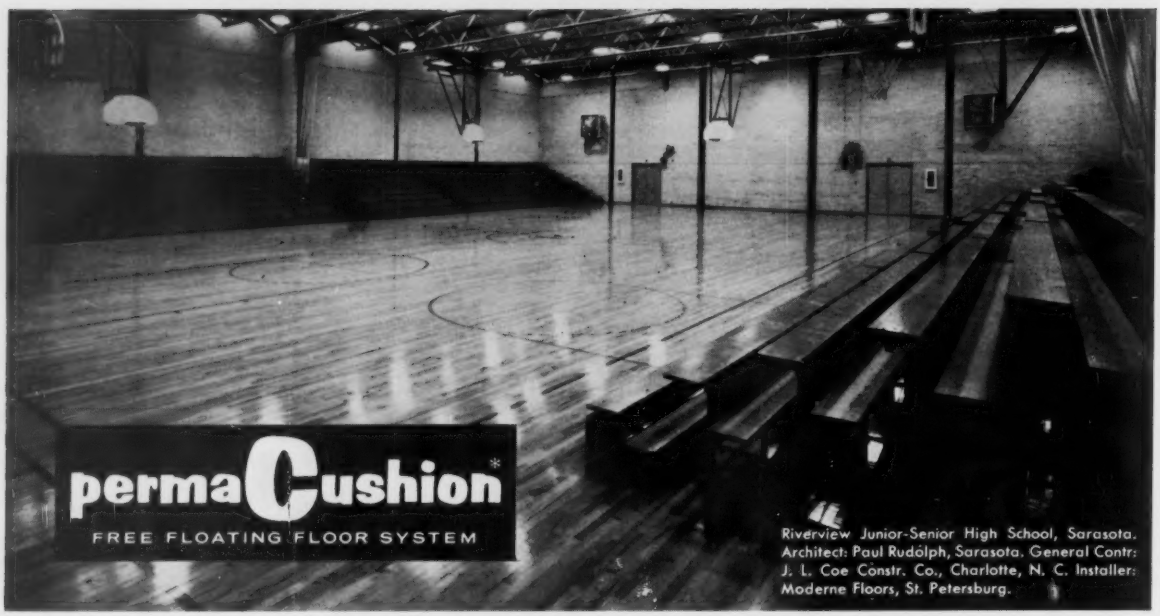
THE R. C. MAHON COMPANY • Detroit 34, Michigan
Sales-Engineering Offices in Detroit, New York and Chicago
Representatives in all Principal Cities

MAHON



for the new

SARASOTA SHOWPIECE



Riverview Junior-Senior High School, Sarasota. Architect: Paul Rudolph, Sarasota. General Contr: J. L. Coe Constr. Co., Charlotte, N. C. Installer: Moderne Floors, St. Petersburg.

With four brand new schools opened this term, Sarasota is sure it can top any community in the U.S. in school architecture, a national magazine said recently.

One of the finest of the four is Riverview Junior-Senior High School, a 24-classroom, $1,204,945, two-story building by Yale's Architecture Department Chairman Paul Rudolph. The school is built around a central courtyard, has exposed steel and white brick, copious canopies for sunshade — and a gymnasium floor that pleases both players and coaches as well as the architect.

Its patented design features extra thick maple flooring, Powernailed to Dri-Vac treated, short-length fir sleepers floating on resilient pads. The floor system is not attached to slab, walls or other structural members to permit expansion and contraction without buckling or cupping. Air-channeled pads cushion the entire floor, preventing shin splints and improving play — and PermaCushion's selected strips of Northern rock maple assure beauty and smoothness that last for generations.

Get the facts on PermaCushion for your next gym job. For information and name of your nearest authorized installer, write Robbins Flooring Company, Reed City, Michigan, Attn Dept: PA-659.

*Patented and Registered US. and Canada.

ROBBINS FLOORING COMPANY

Reed City and Ishpeming, Michigan

WORLD'S LARGEST MANUFACTURER OF HARD MAPLE FLOORS

PITTCO MOULDING NO. 2083-8

Profile of an expertly designed store front moulding . . . simplicity itself, yet rich in strength and beauty. Every metal member in the PITTCO line bears the mark of distinction. Consult your PITTCO Store Front Metal Representative, or refer to Sweet's Architectural File—Section 21.

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS · FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

WHEN AMERICA BUILDS FOR ECONOMY . . . IT BUILDS WITH CONCRETE

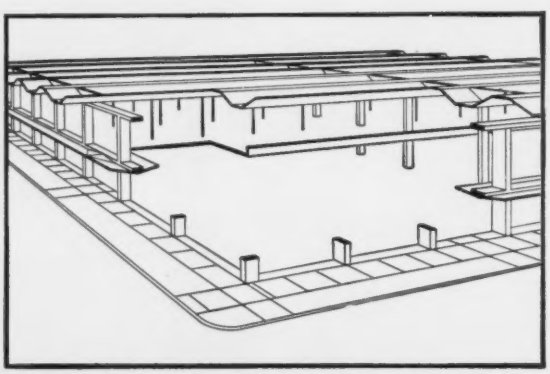
Sears, Roebuck & Company's Tampa store . . .

concrete folded plate roof achieves large, unobstructed floor area

One of the basic requirements here was to achieve unobstructed floor space with economy. Architects Weed, Russell, Johnson & Associates found the answer by using a concrete shell in the form of a folded plate. This construction made it possible to span the entire floor area with only one interior row of columns . . . and suspend the second floor from the roof. The result: 163,715 square feet of *fully flexible* floor space, so important to any retail selling operation.

Folded plate design is, in itself, unique and interesting. And only concrete can give the added boldness of the wide, cantilevered overhang.

It's one more example of the way new uses of concrete are bringing big economies and added vitality to both conventional and modern architecture.

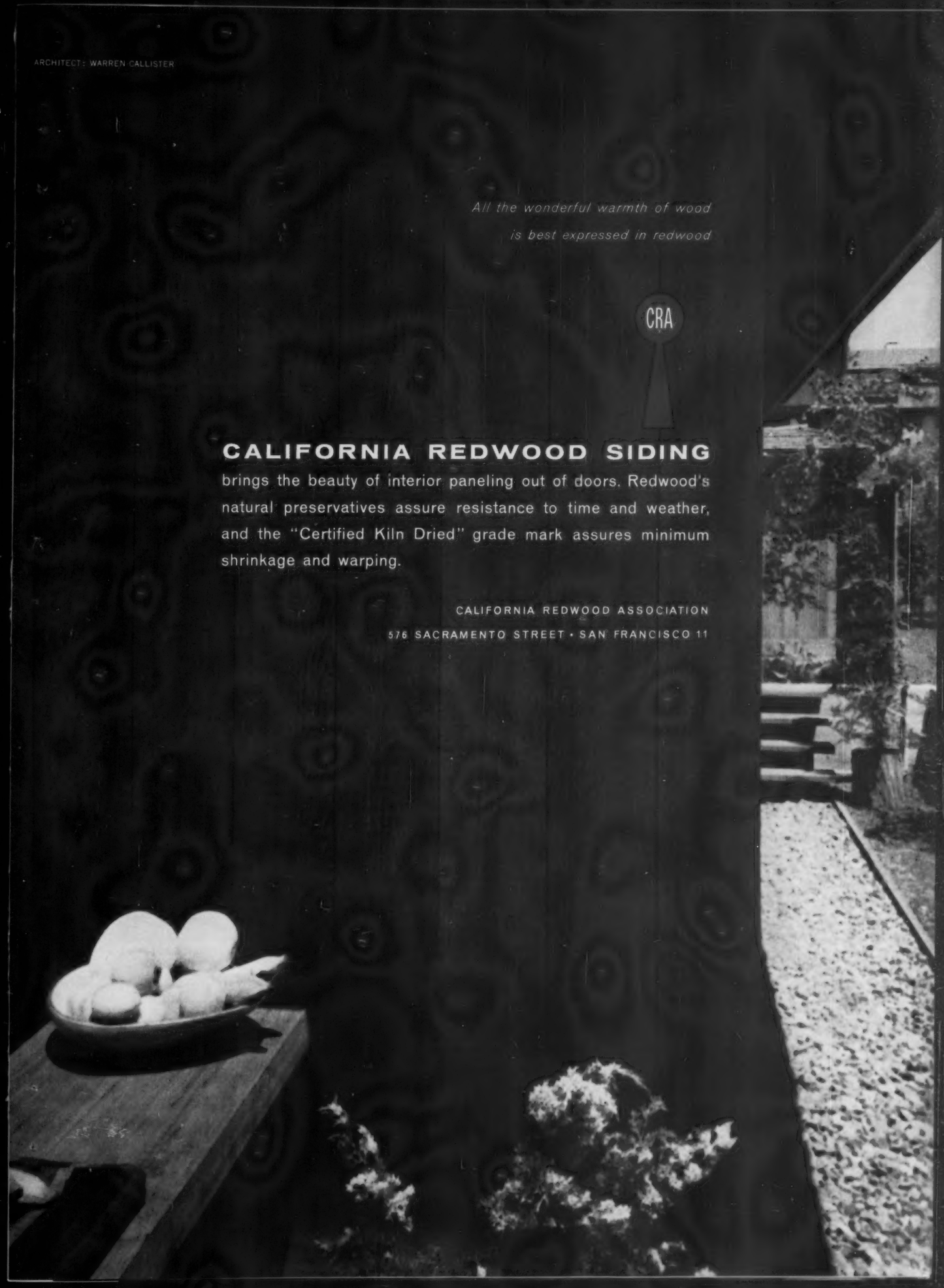


Isometric view showing 125-foot c on c spacing of main columns. Floor slab is supported by 3-inch plates welded together to form a hanger. Hangers are spaced 25 feet c on c.

FOR STRUCTURES... MODERN **concrete**

PORTLAND CEMENT ASSOCIATION

A national organization to improve and extend the uses of concrete


ARCHITECT: WARREN CALLISTER
All the wonderful warmth of wood
is best expressed in redwood
CRA
CALIFORNIA REDWOOD SIDING
brings the beauty of interior paneling out of doors. Redwood's natural preservatives assure resistance to time and weather, and the "Certified Kiln Dried" grade mark assures minimum shrinkage and warping.
CALIFORNIA REDWOOD ASSOCIATION
576 SACRAMENTO STREET • SAN FRANCISCO 11

Refectory of St. Clair's Novitiate, Rochester, Minnesota • Architects: Maguolo & Quick, AIA, St. Louis, Missouri

Terrazzo Crosses this Floor

Handsomely, Permanently

Durable enough for an institutional refectory—beautiful enough to underscore the religious atmosphere—that's Terrazzo, the contemporary classic. An ageless material at work in modern times, Terrazzo keeps its original good looks for the life of the building it graces.

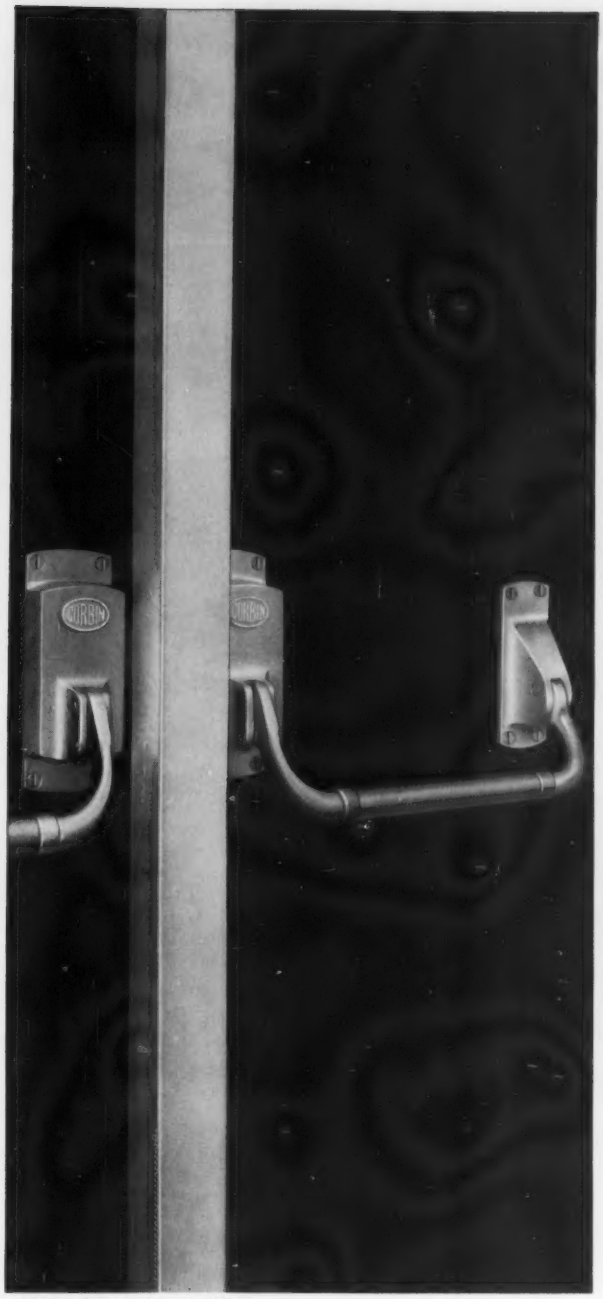
Initial cost is more than offset by the near absence of repair or replacement Terrazzo's smooth jointless surface cleans readily, is hard to stain, requires no refinishing, no painting, no waxing. Terrazzo is marble hard and concrete durable, yet it's easy to walk on, less slippery than waxed floors.

Specify any design or color imaginable for walls, stairs and wainscots. Terrazzo comes through beautifully. For detailed information write the Association in Washington, D. C. AIA Kit sent upon request.

Catalogued in Sweet's.

Member Producers' Council

THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION • Sheraton Building, 711 14th St., N.W., Washington 5, D. C.



#2826 by 5565 aluminum mullion.

To help you settle exit fixture problems with assurance

Designed with personal safety in mind . . . Corbin automatic exit fixtures. Unfailing performance in time of emergency. Meet the most exacting safety requirements of schools, churches, theatres and other public buildings.

Designed to meet every architectural requirement, Corbin exit fixtures are available in rim, mortise, or vertical types. For single and double doors and doors with removable mullions. Made in solid brass, bronze, aluminum, iron and steel — in popular finishes. A one-source solution for exit fixture problems.

P. & F. Corbin Division, The American Hardware Corp., New Britain, Conn.

CORBIN®

corbin automatic exit fixtures

Since HOPE'S 1818

STEEL WINDOWS HAVE THE STRENGTH AND RIGIDITY THAT NO OTHER WINDOW CAN MATCH

Edgemont
Junior-Senior High School
Town of Greenburgh,
Scarsdale, N. Y.

Architect: Warren H. Ashley
Contractor: Stewart M. Muller, Inc.

HOPE'S WINDOW WALLS HELP WIN ARCHITECTURAL DISTINCTION

Conceiving this High School as a group of special purpose buildings on a campus site of natural beauty, the architect used modern construction with Hope's Window Walls to obtain many extra benefits:

1. A novel and beautiful outdoors-indoors relationship with extra value for the social and educational aims of the school;
2. Building units located to serve the educational plan and improve communications without congested corridors;
3. Such units as gymnasium and auditorium available for community use at different hours without heating or lighting the whole plant;
4. Shops and music rooms separated from study and recitation halls;
5. Room and facility for expansion without strain;
6. Lower first cost than for a single multi-story building;
7. Low maintenance and upkeep charges.

This school is one of six buildings chosen by the American Institute of Architects for the highest honors in its ninth annual competition. In all its buildings Hope's Window Wall Units are constructed of Hope's Pressed Steel Sub-frames with Hope's Heavy Intermediate Ventilators. Stationary glazing and porcelain enameled insulated panels are inserted as required by the design.

Hope's engineering and layout assistance is always available to you when you have in mind a building with an interesting window problem. Write for catalog 152-PA for your files.

HOPE'S WINDOWS, INC., *Jamestown, N. Y.*

THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS

ARE YOU UP TO DATE ON RBM?

(REINFORCED BRICK MASONRY)

65 ft. clear span R.B.M. girder proves versatility of REINFORCED BRICK MASONRY in today's construction.

Interior of St. Hedwig's Church, St. Louis, Mo. showing 2 Reinforced Brick Masonry girders running front to rear, approximately 65 ft. long, 10 ft. high and 17 inches thick with finished masonry exposed on both inside and outside. Because these R.B.M. girders proved less expensive and more efficient in use than other structural materials, architect Joseph T. Golabowski, St. Louis, is now using a continuous R.B.M. beam 106 ft. long in the Little Flower School, Springfield, Ill.

NEW TEST DATA* PROVES UNUSUAL LATERAL STRENGTH OF REINFORCED BRICK MASONRY

Every Architect and Engineer should have a copy of this new DESIGN MANUAL and TECH NOTES

Explains Results of Lateral Force Tests with Atomic Blast at Yucca Flats; also many uses of Reinforced Brick Masonry. A complete structural engineering Design Manual for quick energy loading. Explains what resistance to high lateral forces you can obtain with Reinforced Brick construction. For your copy of Manual and Tech Notes, send $1.00 today.

*Structural Clay Products Research Foundation Research Report No. 7 – "Resistance of Structural Clay Masonry To Dynamic Forces"

Have you considered recently the many advantages of Reinforced Brick Masonry – extra strength, extra rigidity, flexibility of use, attractive exterior finish, competitive costs?

In planning schools, hospitals or other buildings you also can provide a safe refuge from such disasters as tornados, hurricanes, quakes or blasts with an R.B.M. core that has proved lateral force resistance. For complete information on R.B.M., call in your local brick manufacturer or the field engineer from your nearest S.C.P.I. regional office, or send $1.00 for 64-page Research Report and Structural Design Manual, together with 11 informative "Tech Notes." Address your request to Dept. PA-96.

Structural Clay Products Institute

1520 18th Street, N. W. Washington 6, D. C.

THE VAST MAJORITY OF THE NATION'S FINE BUILDINGS ARE SLOAN EQUIPPED

BINDON & WRIGHT and SKIDMORE, OWINGS & MERRILL
associated architects
UNIVERSITY PLUMBING & HEATING CO.
plumbing contractor
HOWARD S. WRIGHT CONSTRUCTION CO.
general contractor
BOUILLON, GRIFFITH & CHRISTOFFERSON
mechanical engineers
CRANE CO.
plumbing wholesaler and fixture manufacturer

IN *Seattle*

UTMOST EFFICIENCY IN ULTRAMODERN TOWER

• The new $12-million NORTON TOWER has brought a new era of office life to SEATTLE. Utmost efficiency in space usage has been coupled with architectural artistry. The main tower rises above a 4-story base which houses a mechanical floor and three parking floors having space for 300 cars. The tower is enclosed with gray-tinted plate glass and anodized aluminum. Entrance to the handsome lobby is through a landscaped plaza which contains a reflecting pool. From the lobby automatic elevators provide fast service to all floors. Each tenant is afforded unlimited flexibility in planning his office layout for maximum efficiency. No columns, ducts or piping intrude upon his space. Utility services are carried within the floors and ceilings. One electrical control center governs heating, ventilation, air conditioning and electrical supply. In this ultramodern building, as in many thousands of others, SLOAN *Flush* VALVES are installed throughout.

SLOAN *Flush* VALVES
FAMOUS FOR EFFICIENCY, DURABILITY, ECONOMY
SLOAN VALVE COMPANY • CHICAGO • ILLINOIS

Another achievement in efficiency, endurance and economy is the SLOAN *Act-O-Matic* SHOWER HEAD, which is automatically self-cleaning each time it is used! No clogging. No dripping. Architects and Engineers specify, and Wholesalers and Master Plumbers recommend the *Act-O-Matic*—the better shower head for better bathing.

Write for completely descriptive catalog

PROGRESSIVE ARCHITECTURE published monthly by REINHOLD PUBLISHING CORPORATION, 430 Park Avenue, New York 22, N. Y. Ralph W. Reinhold, Chairman of the Board; Philip H. Hubbard, President and Treasurer; Fred P. Peters, Vice-President and Secretary; Alfred E. Fountain, H. Burton Lowe, Merald F. Lue, D. Bradford Wilkin, William P. Winsor, Vice-Presidents; Kathleen Starke, Assistant Treasurer. Executive and Editorial offices: 430 Park Avenue, New York 22, N. Y. Subscriptions payable in advance. Subscription prices to those who, by title, are *architects, engineers, specifications writers, designers or draftsmen or employes of architectural and engineering firms,* and to government departments, trade associations, members of the armed forces, college libraries, college students, publishers, advertisers, prospective advertisers and their employes—$5.00 for one year, $8.00 for two years, $10.00 for three years. Above prices are applicable in U. S., U. S. Possessions and Canada. All foreign subscriptions—$10.00 for one year, $16.00 for two years, $20.00 for three years. Foreign rates apply to architects and engineers only. Single copy—$1.00; special issues—$2.00 per copy. Printed by Publishers Printing Co., New York, N. Y.
Copyright 1959, Reinhold Publishing Corp. Trade Mark Reg. All rights reserved.
Indexed in Art Index, Architectural Index.

REINHOLD

unity of new federal buildings, cited by architect

Dear Editor: It has become so fashionable to criticize the architecture of the nation's capital that this pastime has become somewhat tedious. But, if the criticism is valid, it should be seriously considered.

The P/A NEWS REPORT on Washington in your April issue includes a column by Frederick Gutheim—"Washington's Public and Private Architecture Deplored." In it he singles out for criticism the proposed complex of Federal office buildings to be erected near the Mall in the neighborhood of the Health, Education, and Welfare Building.

Gutheim passes lightly over the really serious issues, such as congestion and parking problems, and deals with matters of design. He objects to the proposed buildings because of their "uniformity of style. . . their massing, materials, fenestration, and general appearance." He seems particularly to object to a uniformity of roofline.

Let us examine these charges in detail. Is uniformity in itself a cardinal sin? Where does uniformity end and unity begin? In any composition, architectural, musical or literary, is not unity a basic principle?

In designing a group of buildings, such as the one under discussion, it would seem highly dsirable to establish some sort of unity or uniformity between them. Like the unities of place, time, and action in the drama, the unities of mass, color, and material seem to be well established objectives, rather than symptoms of "spiritual poverty, a lack of purpose, the absence of any real spiritual meaning," as Gutheim would have us believe.

Ever since this group of buildings was first considered, the General Services Administration has made every effort to erect a group of buildings that would rise above the criticisms that have been so prevalent in the past. Rather than being deplored, this effort should be encouraged and applauded. Those of us who are responsible for these buildings might well suggest in the words of Samuel Goldwyn, "Don't bite the hand that lays the golden egg!"

WALDRON FAULKNER
Washington, D. C.

•

I fear I am the victim of a changing climate. After my column was written, deploring the new Federal office buildings south of the Mall (but prior to its publication), American Federation of Arts arrived in Washington with an exhibition on architecture. Properly needled by the local press, the distinguished architects who were represented gave forth with suitable criticisms of our monumental buildings. It is these comments that have irritated Waldron Faulkner! I wish to disassociate myself from them: they are complaining about the past; I am deploring the future.

(Continued on page 51)

DUR-O-WAL®

Steel + Design = Results

Steel — Amount of Steel (weight and quality)

Design — Design of reinforcing member (trussed and deformed)

Results — Results (Crack-free masonry walls with a backbone of steel)

The Proven Answer to All Masonry Wall Reinforcing Problems

New Companion Product for Masonry Walls

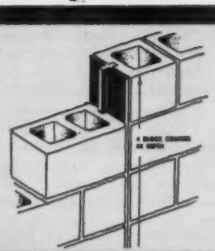
Shipped in cartons with 12 pcs 32" long, 32 lineal ft. Shipping weight 40 pounds.

Rapid CONTROL Joint

trademark

PAT. PENDING

WIDE FLANGE



Neoprene compound flanges with concave edges allow easy compression and tight control joints.

Mail today for your free literature on better masonry wall construction

DUR-O-WAL
Cedar Rapids, Iowa

NAME _____

COMPANY _____

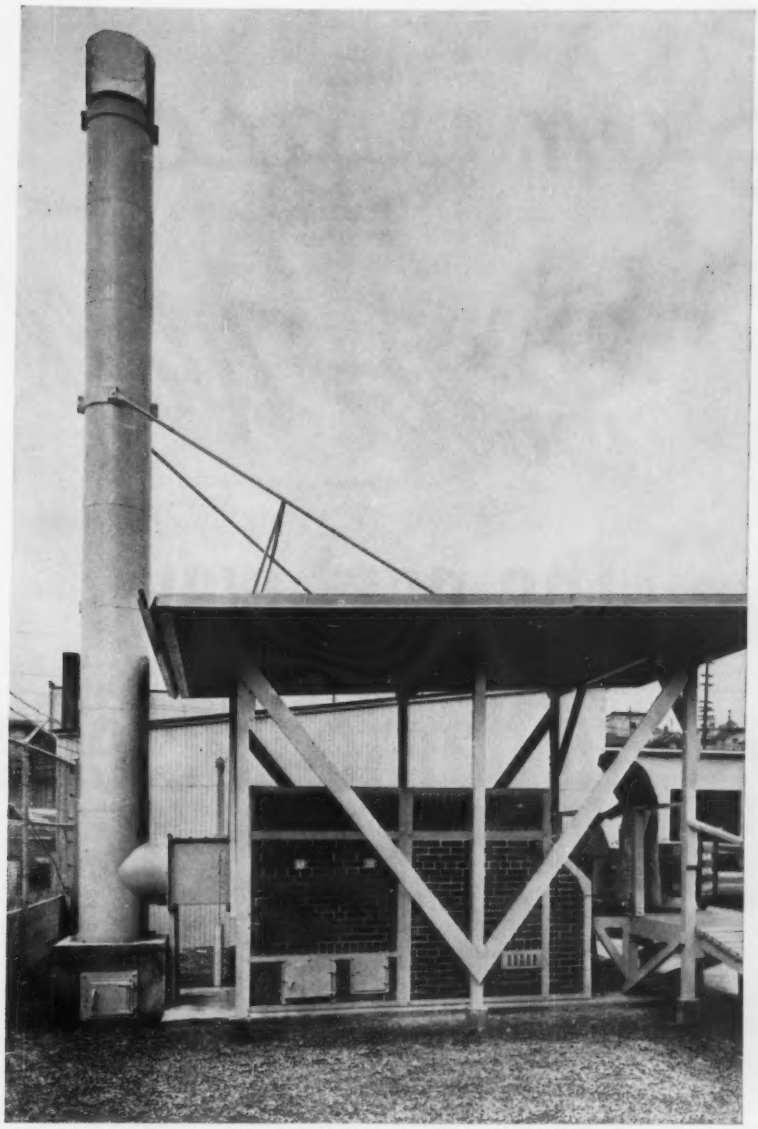
CITY _____ ZONE _____

STATE _____

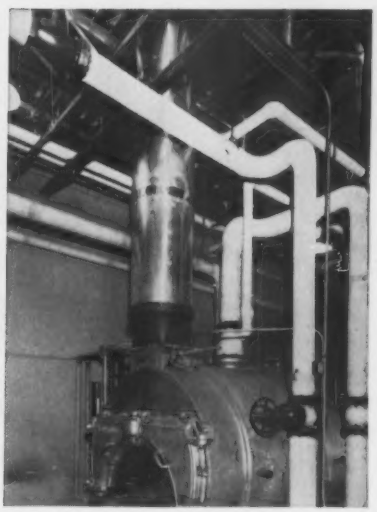
DUR-O-WAL®

Rigid Backbone of Steel For Every Masonry Wall

Dur-O-wal Div., Cedar Rapids Block Co., **CEDAR RAPIDS, IA.** Dur-O-wal Prod., Inc., Box 628, **SYRACUSE, N. Y.** Dur-O-wal Div., Frontier Mfg. Co., Box 49, **PHOENIX, ARIZ.** Dur-O-wal Prod., Inc., 4500 E. Lombard St., **BALTIMORE, MD.** Dur-O-wal of Ill., 119 N. River St., **AURORA, ILL.** Dur-O-wal Prod. of Ala., Inc., Box 5446, **BIRMINGHAM, ALA.** Dur-O-wal of Colorado, 29th and Court St., **PUEBLO, COLORADO** Dur-O-wal Inc., 165 Utah Street, **TOLEDO, OHIO**



Van-Packer outlasts a comparable steel stack by 3 times (average), costs no more.



A Van-Packer can be superimposed on boiler or floor supported on Tee Section.

Van-Packer refractory stack for boilers and incinerators is durable and economical

Low cost and long life make the Van-Packer prefabricated refractory stack superior to a steel stack. It is available with Standard Sections for furnaces and boilers, or Hi-Temp Sections for incinerators. Though it costs no more than a comparable steel stack, it will last three times longer, on the average, because of its refractory construction.

The Van-Packer is prefabricated in three-foot sections, in eight diameters from 10-inch ID to 36-inch ID. Sections are cemented one atop another with high temperature acidproof cement and secured with draw-up type bands. No painting or maintenance is required because sections are enclosed in a corrosion-resistant metal jacket, resulting in further economy.

Van-Packer Stacks are available through local Van-Packer Jobbers and Representatives. See "Smoke Stacks" or "Chimneys — Prefabricated" in the yellow pages of your classified directory.

Write for Bulletin IS-32-53

VAN-PACKER

Division of **FLINTKOTE** ***America's Broadest Line of Building Products***

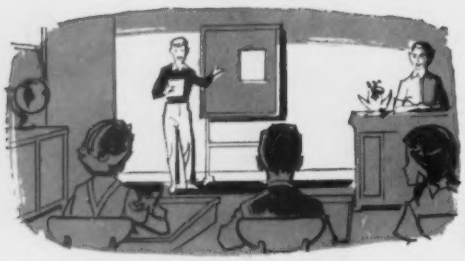
Van-Packer Co. 1232 McKinley Ave., Chicago Heights, Ill. • SKyline 4-4772

SEE OUR CATALOG IN SWEET'S

NEW Sanitized®

Bolta Wall®

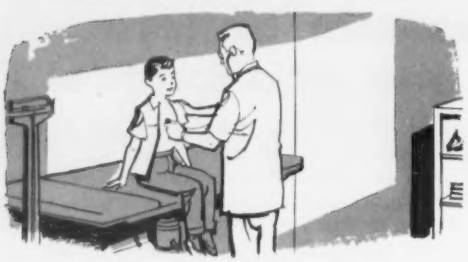
VINYL WALL COVERING



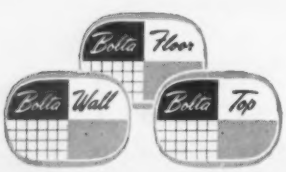
SCHOOLS, COLLEGES, NURSERIES

HOSPITALS, CLINICS, LABORATORIES

HOTELS, MOTELS, RESTAURANTS



OFFICES, THEATRES, STORES



A decorative durable vinyl for every purpose

The best way to baffle bacteria

Sanitized Bolta-Wall is:

BACTERIA AND GERM RESISTANT—Retards, resists and inhibits the growth and action of bacteria and germs.

ODOR RETARDANT—Acts to prevent and resist odors.

FUNGI, MOLD, MILDEW, AND ROT RESISTANT—Retards growth and action of these micro-organisms.

NON-TOXIC AND NON-IRRITATING

HYGIENIC AND ANTISEPTICALLY CLEAN

Insist on this important feature. Now ***exclusive*** *with Bolta-Wall in the vinyl wall covering field*

For complete information write:

THE GENERAL TIRE & RUBBER COMPANY
BUILDING MATERIALS DIVISION • AKRON 9, OHIO

Immanuel Lutheran Church, Des Plaines, Illinois. Architects: Charles Edward Stade and M. Dolan and H. Anderson, Associates, Park Ridge, Illinois. Contractor: Stade Construction Company, Park Ridge, Illinois.

For beauty, fire safety, economy, permanence and availability, specify *timber structures*

by... **TIMBER STRUCTURES, INC.**

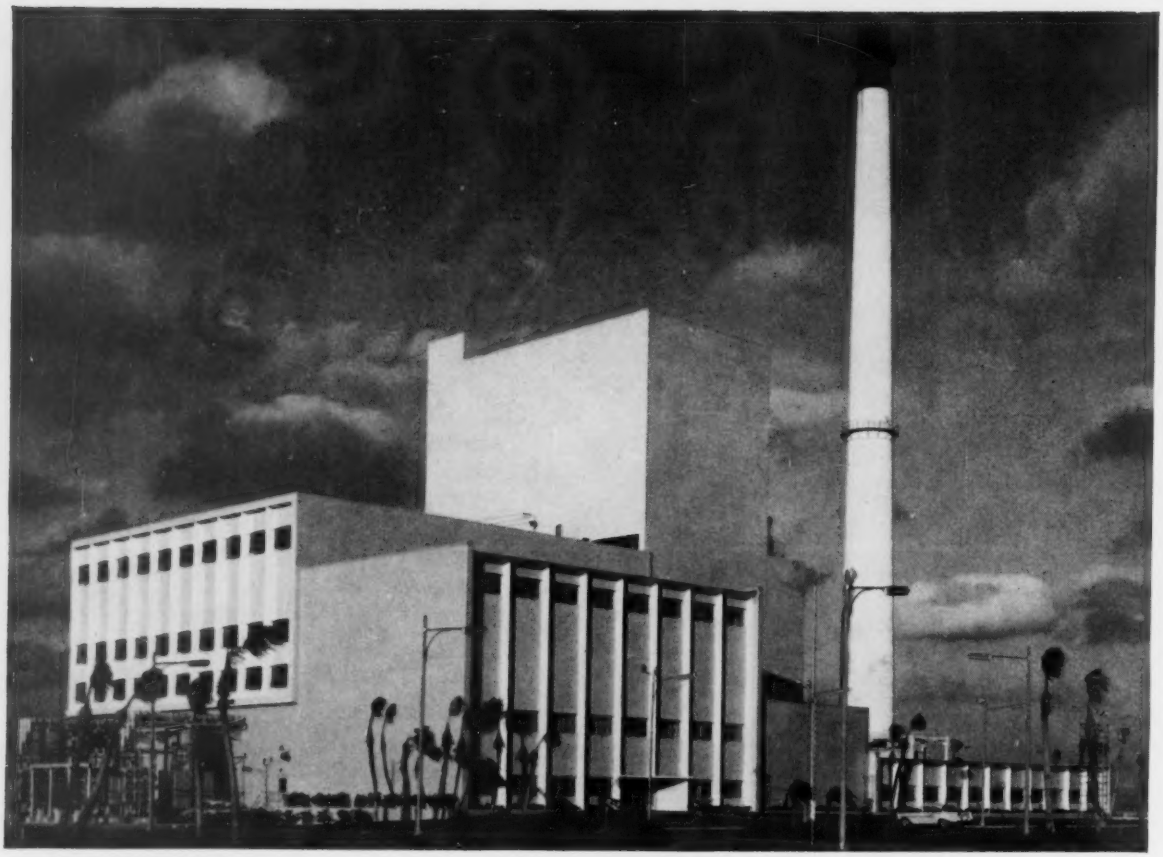
P. O. BOX 3782, PORTLAND 8, OREGON

Division offices in Ramsey, N. J.; Schiller Park, Illinois; Dallas, Texas

DISTRICT REPRESENTATIVES IN MAJOR CITIES THROUGHOUT THE UNITED STATES

Affiliated Company: Timber Structures, Inc. of California • Richmond, California

MEMBER A.I.T.C. AND PRODUCERS' COUNCIL



PAUL L. BARTOW UNIT #1
FLORIDA POWER CORPORATION
WEEDON'S ISLAND
ST. PETERSBURG, FLORIDA
Black & Veatch — *Engineers*
Ceramic Veneer, in white for piers and jambs and in buff for sills and coping, was specified for this new power plant. Unit sizes are 20" x 24" x 1¼", and also special shapes.

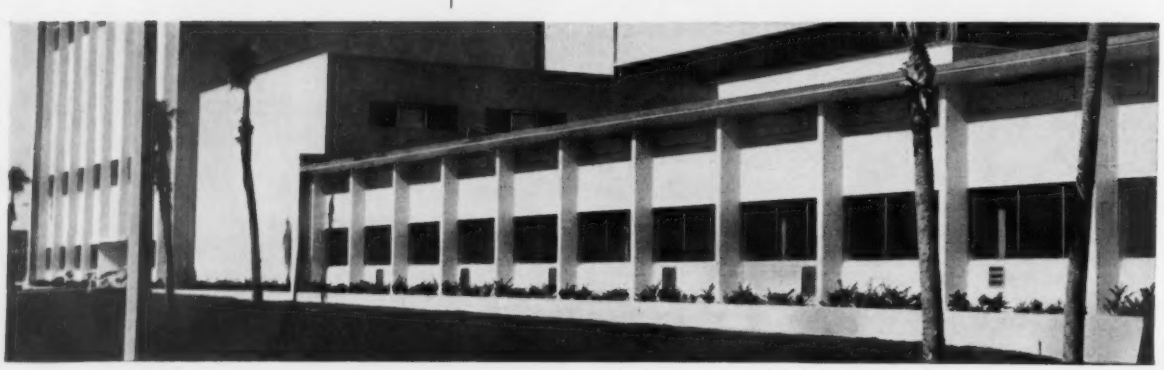
FEDERAL SEABOARD TERRA COTTA CORPORATION

F S T C

10 E. 40th St., New York 16, N. Y.
Plant at Perth Amboy, N. J.

Ceramic Veneer assures lasting color and beauty—it's self-cleaning

Dirt, grit and grime have little effect on the fire-glazed finish of Ceramic Veneer. Exterior treatments — plain surfaces, polychrome panels or sculpture—need only normal rainfall to keep clean and colorful. Interiors of this modern architectural terra cotta need only soap-and-water washings to retain their original richness and beauty indefinitely. Besides minimum maintenance, Ceramic Veneer offers other important advantages—moderate initial cost, ease of installation, and proved permanence. Consider, too, that Ceramic Veneer, in units large or small, is custom-made precisely to your specifications and you can choose from a spectrum-rivaling range of colors. For complete data on how well Ceramic Veneer can fit into your plans, write today. Without charge we will gladly furnish construction detail, data, color samples, estimates and advice on preliminary sketches involving use of Ceramic Veneer.



only the

Josam SERIES "JH" GREASE INTERCEPTOR

can do this

An efficient grease interceptor must do two things: (1) intercept over 90% of the grease in waste water, and (2) provide an EASY method of emptying the grease collected . . . for if the grease is not removed periodically the interceptor becomes filled and no longer collects grease.

Due to the difficult, disagreeable and messy job to remove grease from ordinary interceptors because the cover must be removed, the grease scooped out and the cover replaced, such interceptors are seldom cleaned.

The Josam Series "JH" Grease Interceptor, not only discharges grease AT THE TURN OF A VALVE, but intercepts over 95% of the grease in the waste water.

Don't use interceptors that do half a job — provide 100% protection against grease-clogged lines with Josam "JH" Grease Interceptors!

Write for literature.

JOSAM MANUFACTURING COMPANY

General Offices and Manufacturing Division
MICHIGAN CITY, INDIANA

REPRESENTATIVES IN ALL PRINCIPAL CITIES

West Coast Distributors
JOSAM PACIFIC COMPANY
San Francisco, Calif.

Canadian Manufacturers
JOSAM CANADA LIMITED
Toronto, Canada

Josam products are sold through plumbing supply wholesalers.

JOSAM MANUFACTURING COMPANY
Dept. PA-6, Michigan City, Indiana
Please send copy of Manual W on Interceptors

Firm.....
By.....
Address.....
City.....Zone.....State.....

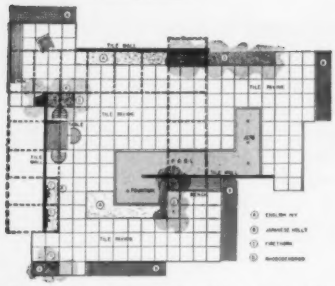
"CERAMIC TILE...FOR UNLIMITED SERVICE AND DESIGN POSSIBILITIES!"

The project: a uniquely designed patio-retreat. The landscape architect-designer: James Rose. Ingredients: ceramic tile and imagination. Result: another idea stimulator for ceramic tile—the lifetime material which doesn't burn, scratch, dent, stain or fade. The surfacing material which cleans easily and never needs wax. The versatile home surfacing which gives you wide latitude for unique designs.

James C. Rose

THE MODERN STYLE IS.....

CERAMIC TILE



Design for Patio-Retreat by James Rose

The multiple benefits of ceramic tile will pay off handsomely for yourself and your client on any residential, institutional or commercial project you undertake. See your local tile contractor for up-to-date information—including all the details on the new lower-cost installation methods and the new dry-curing, thin-setting bed mortars.

PARTICIPATING COMPANIES

American Encaustic Tiling Co., Inc.
Atlantic Tile Mfg. Co.
Cambridge Tile Mfg. Co.
Carlyle Tile Co.
General Tile Co.
Gladding, McBean & Co.
Jackson Tile Mfg. Co.
Jordan Tile Mfg. Co.
Lone Star Ceramics Co.
Monarch Tile Mfg. Inc.
Mosaic Tile Co.
Murray Tile Co., Inc.
National Tile & Mfg. Co.
Olean Tile Co.
Pacific Tile and Porcelain Co.
Pomona Tile Mfg. Co.
Ridgeway Tile Co.
Robertson Mfg. Co.
Sparta Ceramic Co.
Stylon Corp.
Stylon Southern Corp.
Summitville Tiles, Inc.
Texeramics, Inc.
United States Ceramic Tile Co.
Universal Potteries, Inc.
Wenczel Tile Co.
Winburn Tile Mfg. Co.

TILE COUNCIL OF AMERICA, INC.
800 Second Avenue, New York 17, N. Y.;
Room 933, 727 West Seventh St.,
Los Angeles 14, Calif.;
Room 207, 5738 North Central
Expressway, Dallas, Texas

CERAMIC tile

p/a views

(Continued from page 43)

As to whether my criticisms of the four new Federal office buildings are sound, I will stand in the judgment of your readers. It should not be necessary to offer them any further evidence than the accompanying photographs (*page 43*).

Perhaps I have wearied my readers too much with planning considerations in the past to have given them proper weight in the present matter. Certainly it is true, as Faulkner observes, that there are emphatic concerns that have not been sufficiently resolved here. However, it is design factors that should be paramount here. This complex of buildings, housing some 25,000 employes, designed by several architectural firms, invites some more thoroughgoing architectural concept than GSA has provided. Granted "every effort" has been made, we must still judge by the final results. To have engaged competent architects, to have compensated them properly, to have made "every effort to erect a group of buildings that would rise above the criticisms that have been so prevalent in the past," is not enough. We must ask whether the effort has been successful. Look at the photographs.

Faulkner does not argue that the effort has succeeded. He merely contends that the effort is a worthy one and should be applauded. Very well, I applaud! But that does not make the buildings any better.

F. G.

planning controls

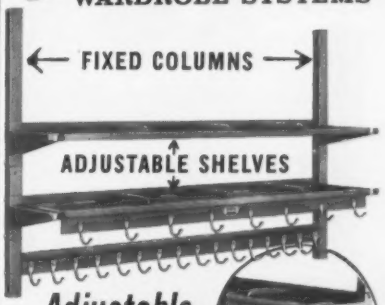
Dear Editor: I greatly appreciated your P.S. in APRIL 1959 P/A.

As planners working extensively in the field of urban-renewal studies, we have been shocked by the extensive, capricious, and misleading criticisms directed at the urban-renewal activities taking place throughout the nation. In particular, we have felt that most of the writers had little appreciation of the extensively difficult processes involved in preparing a plan acceptable to the public at large, to the various reviewing bodies, and to the Federal Government as well.

Furthermore, much of the criticism of the project-planning is directed at the

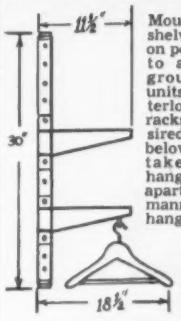
(Continued on page 54)

Schooline®
WARDROBE SYSTEMS



Adjustable
WALLMOUNT
HAT AND COAT RACKS

with coat hangers



Mount directly on any wall—shelves adjustable for height on permanently fixed columns to accommodate any age group. 3'2" and 4'2" long units fit in anywhere or interlock to make continuous racks of any lengh or desired capacity. Double rails below double hat shelves take coat hooks or coat hangers. Hold wraps spaced apart in orderly, healthful manner. 5-6 hooks or 3-4 coat hangers per running foot.

Fireproof, vermin-proof, strong beyond need. Lifetime construction—welded heavy gauge steel, baked enamel finish.

OTHER Schooline® UNITS

Wallmount(TM) Overshoe Racks mount on wall at base board. Keep overshoes paired, and off the floor. Come in matching units of Wallmount hat and coat racks. Have same interlocking and construction finish.

Multiple purpose 4 ft. wide wardrobe racks backed with chalkboard (The Chalkrobe®) or corkboard (The Corkrobe®). Come on glides or casters for extreme flexibility and efficiency in use of space. Also available with closed base for use as movable room dividers.

Write for Schooline Catalog SL-510

VOGEL-PETERSON CO.
1121 W. 37th Street • Chicago 9, Illinois

designed with imagination . . .

surfaced with

FORMICA®

Laminated Plastic

Formica laminated plastic can be either veneered to core stock in a fabricating shop, or applied as a surfacing over a variety of basic wall materials such as Flakeboard, plywood, plaster, or dry wall right on-the-job. Shop jobs are normally done with Urac 185 adhesive under pressure while Formica Safe-Bond Cement is used on-the-job.

This "floating" wall in a reception area is typical of a Formica interior preveneered and erected as completed panels.

The facing page tells the story of how the job was done.

The story of Formica surfaces for beauty and low maintenance is being told every day in millions of homes, offices and institutions the world over.

Illustrated:
Formica Teak 25-CR-85
Designers:
Beeston and Patterson
Formica Interior:
Midhattan Woodworking Corp.

This mark certifies genuine FORMICA® *Laminated Plastic* . . . . .

Guaranteed by Good Housekeeping

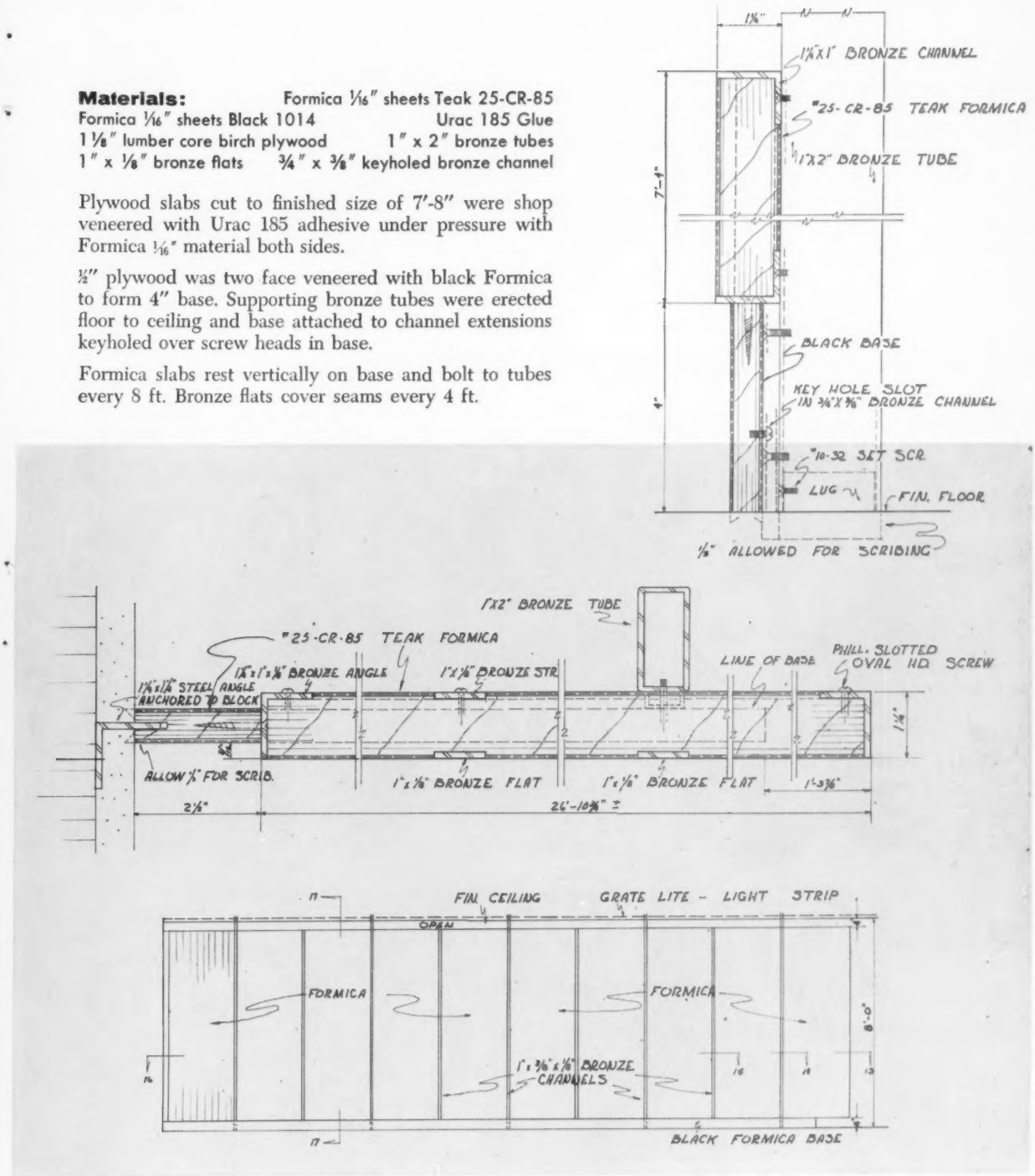
product of CYANAMID

Materials: Formica 1/16" sheets Teak 25-CR-85
Formica 1/16" sheets Black 1014 Urac 185 Glue
1 1/8" lumber core birch plywood 1" x 2" bronze tubes
1" x 1/8" bronze flats 3/4" x 3/8" keyholed bronze channel

Plywood slabs cut to finished size of 7'-8" were shop veneered with Urac 185 adhesive under pressure with Formica 1/16" material both sides.

1/2" plywood was two face veneered with black Formica to form 4" base. Supporting bronze tubes were erected floor to ceiling and base attached to channel extensions keyholed over screw heads in base.

Formica slabs rest vertically on base and bolt to tubes every 8 ft. Bronze flats cover seams every 4 ft.



Send for Wall Specifications! *36 page book of Formica Wall specifications (form #846) and a colorful Commercial Interiors brochure (form #796) are yours for the asking. Write Formica Corporation, 4604 Spring Grove Ave., Cincinnati 32, Ohio.*

..... **be sure you get genuine Formica. Look for this wash-off registered trade mark on the surface.**

FD-2119

(Continued from page 51)

wrong target, since the redeveloper and his architect are usually not under the complete control of the local redevelopment agency insofar as building designs are concerned.

We, in this office, are very proud of the work we have done; and we feel that the urban-renewal program is achieving many significant and major accomplishments in the reconstruction of our older urban areas.

ISADORE CANDEUB
Candeub & Fleissig
Newark, N. J

the house client

Dear Editor: A note of thanks to the Editors of P/A for the nice presentation of our "Case Study House #18" in MARCH 1959 P/A.

But regarding the pros and cons of residential practice—I truly don't understand why I am the only con!

Is it that we've been too-long jammed to our dado lines with house clients? Are we getting only those the others are turning away? Or has the wonderfully sweet taste of recent nonresidential work too quickly spoiled us?

Frankly, I believe none of these really applies. The simple fact is that the planning and building of a home somehow changes a normal personality into a JEKYLL-HYDE monster—warped with paranoia, egomania, melancholia, monomania, and persecution delusions.

I would like to add, however, some of my best friends are house clients!

CRAIG ELLWOOD
Los Angeles, Calif.

call to arms

Dear Editor: The destiny of any creative art that is existing in a status-quo must be awakened by the youthful spirit in it. Here lies the hope for architecture as we know it. We are in need of an alive imagination to brighten the future of architecture.

Things of this nature can come about much sooner if the so-called representative organizations in architecture would bring in new blood, and allow them to voice the beliefs of young men. Then could we strengthen our architectural foundations instead of weakening them, as is now the case.

We, involved in the greatest means of recording man's progress, seem at present only to be recording giant dollar signs instead of buildings with great spirit. Let us point out to people the heritage which has been the architects', and the great responsibility they have within society. They have the power to raise man's standards to a higher level—and this is not only true of the mechanical but, above all, of the spiritual levels. The latter is accomplished by structures of great beauty which would naturally cause people to begin to understand the beauty around them in different forms.

Here the architect must set a clear perspective as to his position in being a great deal more than a businessman who makes his money by drawing. That situation appears far more prevalent among the larger firms who appear to have lost

(Continued on page 58)

STAINLESS COSTS LESS THAN ALUMINUM—

Do you know that the square-foot cost of stainless steel sheet for curtain wall panels is usually equal to or lower than aluminum when compared in thicknesses of equal indentation resistance? For example, Type 302 stainless steel, .022″ thick is equal to .051″ aluminum and costs only 62¢ per sq. ft., as compared to 67¢ per sq. ft. for 3003-H14 anodized aluminum.

For additional information on all gauges, fill in and mail the coupon.

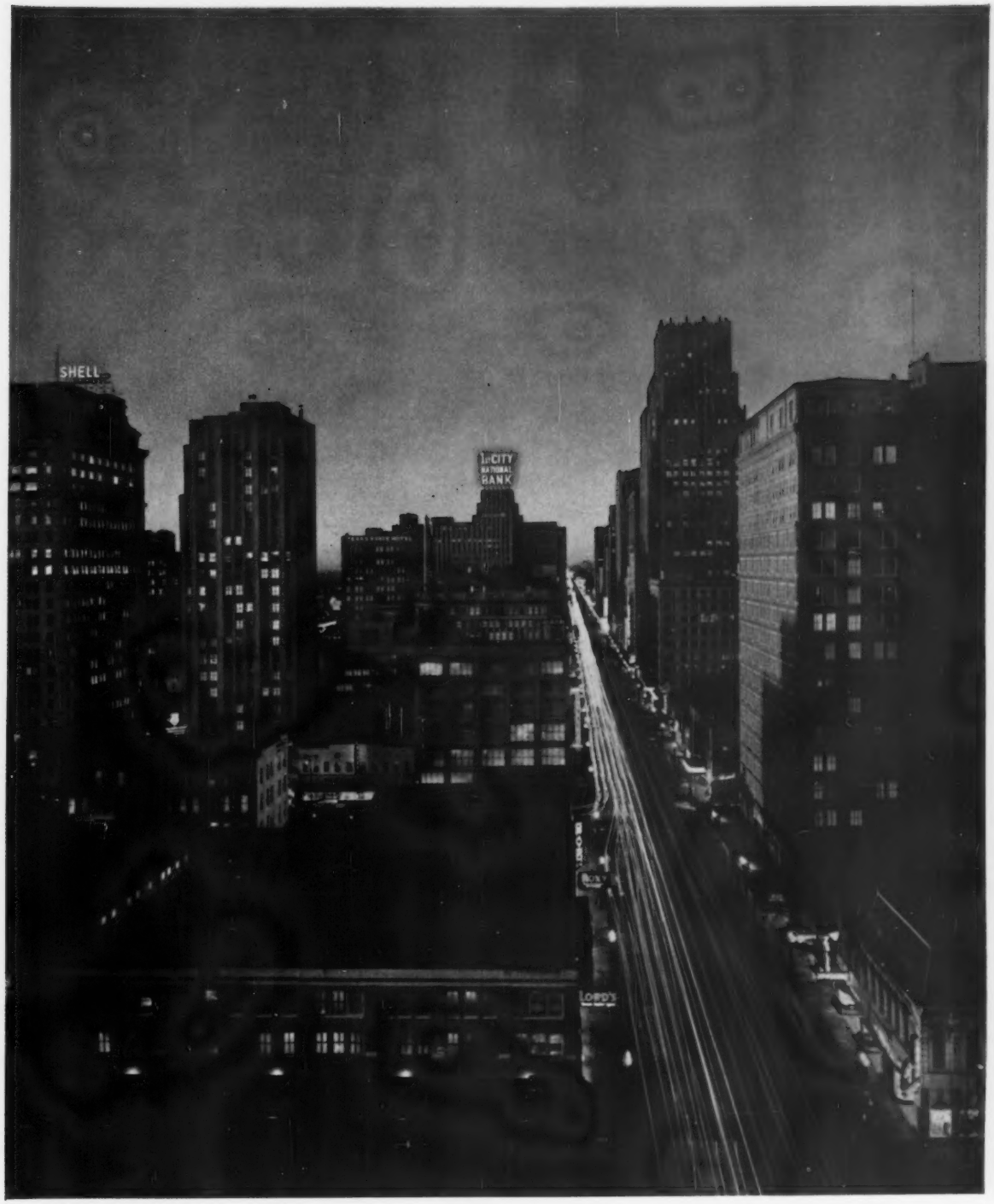
Washington Steel Corporation
WASHINGTON, PENNSYLVANIA

MAIL COUPON Today!

WASHINGTON STEEL CORPORATION
6-M Woodland Avenue, Washington, Pa.

Gentlemen:
Please send me full information on comparative costs of stainless steel vs. aluminum for curtain wall panels.

Name
Position
Company
Street
City Zone State



HOUSTON, *located 50 miles inland from the Gulf of Mexico on the Houston Ship Canal, is, rather astonishingly, the third largest port in the U. S. Over 4,000 deep-sea ships move cargoes valued annually at $4-billion. Houston is also America's industrial frontier. As the hub of one of our fastest growing metropolitan areas, its development is solidly based on bountiful resources of crude oil, natural gas, salt, sulphur and water. From these resources come 11% of the nation's refined crude oil; 85% of our petro-chemicals; and 22% of our aluminum. Symbolizing this remarkable growth is the brawny skyline of Houston rising like a colossus from the Texas coastal plain. Otis has a long standing "pardner's" interest in Houston's growth. Over 66% of its elevators are the world's finest. They're by OTIS.*

OTIS ELEVATOR COMPANY
260 11th Avenue, New York 1, N. Y.
Offices in 501 cities around the world

Baker® industrial trucks

AUTOTRONIC® OR ATTENDANT-OPERATED PASSENGER ELEVATORS • ESCALATORS • TRAV-O-LATORS • FREIGHT ELEVATORS • DUMBWAITERS
ELEVATOR MODERNIZATION & MAINTENANCE • MILITARY ELECTRONIC SYSTEMS • GAS & ELECTRIC TRUCKS BY BAKER INDUSTRIAL TRUCK DIVISION

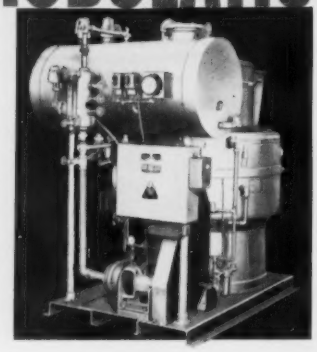
5 HP PER SQ. FT.
OF FLOOR AREA!

FLOOR LOAD: ONLY
150 LBS./SQ. FT!

THE VERSATILE
VAPOR

DRUM MODULATIC

WATER-TUBE BOILER



for heating, power, and processing

For the satisfaction of clients well-served

In time, you'll use nuclear energy for providing steam and hot water, but *today's* most compact heat-and-power "package" is Vapor's popular Drum Modulatic. It's clean, quiet—comes with oil, gas, or combination burner—is delivered completely assembled and wired ready to move in through plant-type doorways and fire-up. Push-button start; automatic operation; hot water instantly...full steam from low-fire "cotton soft" starts in 5 minutes.

New design freedom

You can do away with the "boiler room!" The Drum Modulatic goes anywhere from basement to roof. Needs no special foundation or expensive stack, and you don't even need to enclose it. Output: 20 to 200 hp; 0-15, 5-150, or 50-200 psi steam pressure—670,000 to 6,690,000 btu/hr. Multiple-unit installations can have a single coordinated control.

If you wonder, "who is Vapor Heating?" . . .

For over 50 years we have made transportation heating systems—in fact, almost every Diesel passenger train uses a Vapor Water Tube Boiler. Now the same efficient, compact principle is yours for any industrial heating, power or processing application. And, Vapor has a nationwide reputation for standing behind every one of its products! You may not know us now, but chances are we'll soon be *very* good friends!

Mail this coupon for full information.

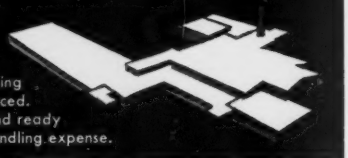
VAPOR HEATING CORPORATION
80 E. Jackson Blvd., Chicago 4, Ill., Dept. 45-F
Please send me, free, your Drum Modulatic Bulletin No. 475
INDIVIDUAL_____
FIRM_____
STREET_____
CITY, ZONE, STATE_____

LOW COST, WHITE ROOFING AGGREGATE

CRYSTALITE

Bondable, Whitest White Highly Reflective Marble
(cuts air conditioning expense)

Sparkling white Crystalite makes a beautiful, built-up roof—yet costs very little more than the cheapest aggregates. Crystalite is approved for bonding by leading roofing material manufacturers. Crystalite is a hard, nonporous limestone marble. It will not crumble, deteriorate or change color. Because of its heat reflective properties, air conditioning expense is greatly reduced. Crystalite, clean, dry and ready to use, also saves on handling expense.



Write for Complete Information, Samples and Prices
BLACK WHITE LIMESTONE CO.
Front and Eighth Streets, Quincy, Illinois

CONNOR

forest products since 1872

"LAYTITE" maple birch oak FLOORING

has been first choice for gyms, play rooms and class rooms

"CONTINUOUS STRIP", Blocks, Regular Strip, and Slats

School and Gym Floors Our Specialty

MFMA grades and trade marked

See Sweet's file specs # 13J/Co.

CONNOR LUMBER & LAND CO.
P. O. BOX 810-K, WAUSAU, WIS.
Phone No. 2-2091

Striking architectural effect achieved with RS ceramic tile Curtain Wall Panels

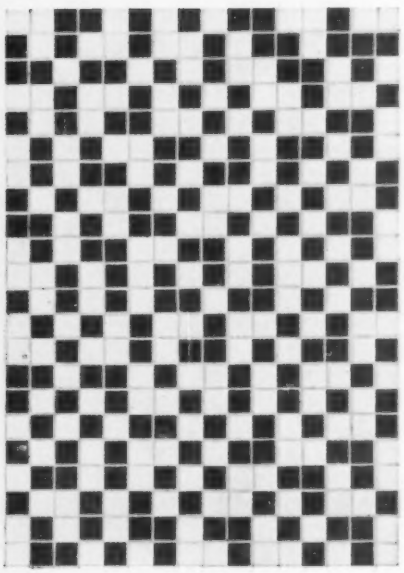
Plate No. 1069

FIRESTONE SALES-SERVICE STORE
Akron, Ohio

Architects:
WILLIAM F. KINKOPH — D. W. GOODWIN
The Firestone Tire & Rubber Co., Akron, Ohio

General Contractor:
J. G. RUHLIN CONSTRUCTION CO.
Akron, Ohio

Close-up shows 1" x 1" Romany • Spartan tile in a random 50/50 mixture of Spartex White and Decorator Cherry Red.



Offering unlimited color and design possibilities, RS Panels were the architect's logical choice in designing the exterior of this handsome sales-service center.

These panels are of ceramic tile and reinforced lightweight concrete, cast monolithic and grouted with permanently resilient latex. Each vertical panel is made up of two 5′ x 5′ sections 2¼″ thick, with tongue and groove joint between sections and square edges on outer perimeter. Concrete backs provide finished interior walls.

RS Panels are available in thicknesses from 1⅜″ to 4″, with or without insulation, and in a complete range of sizes and edge conditions to meet your specific requirements. For complete information on RS Panels, including "U" values, weights and short form specifications, write for Bulletin RSP-201. Ceramic Tile Panels, Inc., Dept. P-32, Canton 2, Ohio.

ROMANY • SPARTAN

RS Panels

CERAMIC TILE PANELS INC.

MEMBER: THE PRODUCERS COUNCIL, INC

p/a views

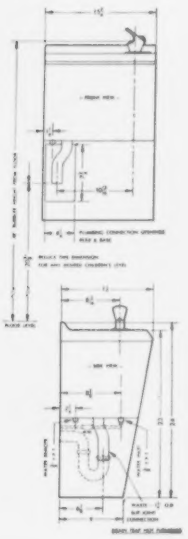
(Continued from page 54)

their identity as men of true integrity within the profession.

When a noble profession such as architecture is looked at first as only a means to money, then I feel the time has come to examine our values. Now we should all return to the integrity and ethics which still exist in the few men of quality.

The architect's first responsibility is to the service which he performs. In performing this there is naturally a fee involved. However, if instead of cutting these fees to get the job, the fees were fixed for all architects, then the value of the design would be the determining factor. Not as it is now, namely the lowest fee. If such conditions were corrected, the public would have a far clearer understanding of the profession, and also a deeper respect for it.

BURTON D. GLASS
Designer
Chicago, Ill.



Haws Model HWT-13

CLEAN

from every angle...

HAWS brilliant new wall mounted electric water coolers are a *clean break* with tradition! Compact design hugs the wall – leaving floor area clear! Crisp, *clean styling* is crowned by gleaming stainless steel – with plumbing and electrical unit completely enclosed. HAWS "clears the deck" for uncluttered maintenance ease and shining *clean floors.* This innovation in water cooler concept and design scores a *clean sweep* for HAWS – leader in the field since 1909! Find out about HAWS' complete line of drinking facilities. See HAWS Catalog in Sweet's Architectural File or write for your copy today.

HAWS DRINKING FAUCET CO.
1441 Fourth Street
Berkeley 10, California

WRITE FOR DATA ON HAWS CAFETERIA AND RESTAURANT WATER COOLERS

the tillable soil

Dear Editor: I clipped your November and December P.S. because you set me to thinking.

Now, "how *could* we get people to see architecture?" Perhaps there is a void which, if filled, would help partially to do this. When we peruse the editorial page of our daily newspapers, we see "The World Today," "Pointers for Parents," "The Medical Column" (entitled this day "Advice from Experts Should Carry Weight"), etc. Then when we look for advice from experts concerning Architecture and the City we find only the trivial syndicated columns on "more storage space," "remodeling your kitchen," etc.

When we do speak of the influence of architecture on the community and the latent opportunities for improving our towns and cities, we speak mostly from the professional magazines, and occasionally from *Harper's, The New Yorker, Fortune,* and *Life.* Perhaps the gentry wish to learn, and perhaps if we go to the daily editorial page, the meeting place of the gentry, we will find tillable soil.

KENNETH W. BROOKS
Spokane, Wash.

notices

new offices

PAUL BRASWELL, Architect, 416 Providence Rd., Charlotte, N. C.

ROBERT M. BLUNK, Architect, 1299 Bayshore, Burlingame, Calif.

F. VANBUREN KING, Architect, 222 Warwick Rd., Newport News, Va.

DOUGLAS HONNOLD, JOHN REX, ARCHITECTS & ASSOCIATES, 9026 Melrose Ave., Los Angeles, Calif.

FRED S. DUBIN ASSOCIATES, Consulting Engineers, 1357 Ponce de Leon Ave., San Juan, P. R., under direction of VICTOR M. GARCIA, Associate.

CURTIS & DAVIS, Architects-Engineers, 331 Madison Ave., New York, N. Y. WALTER J. ROONEY, JR. will be Resident Architect.

(Continued on page 62)

I B M Sales Office, Detroit

OWNER:
Second Pallister Corporation
c/o Max Philippson, New York

ARCHITECTS:
Pedersen & Tilney, New York

ASSOCIATE ARCHITECTS:
Swanson Associates, Inc.,
Bloomfield Hills, Mich.

CURTAIN WALLS:
Moynahan Bronze Co.,
Flat Rock, Mich.

PORCELAIN ENAMEL PANELS:
Wolverine Porcelain Enameling Co., Detroit

GENERAL CONTRACTOR:
R. E. Dailey & Co., Detroit

COLOR and FORM

with Porcelain Enamel Curtain Walls

The new Detroit sales office of International Business Machines Corporation vividly demonstrates how color and form can be made effective elements of architectural expression with porcelain enamel on Armco Enameling Iron.

Full use of porcelain enamel's unlimited color achieves a perfect balance of graded blues that is an integral and effective part of the design concept. By specifying porcelain enamel the architects not only were assured of uniformly consistent color-matching, but also lifetime durability that will preserve the beauty of their design.

Porcelain enamel panels in a broad range of sizes and shapes enabled form to be economically integrated into the facade design with story-high narrow panels, accentuated by short spandrel units.

Explore the design advantages offered by curtain walls of porcelain enamel on Armco Enameling Iron: a rainbow of weather-proof colors; a full range of formed, embossed and textured shapes and surfaces. Write Armco Steel Corporation, 1819 Curtis Street, Middletown, Ohio, for information and data on Armco Steels/for Architecture.

ARMCO STEEL

Armco Division • Sheffield Division • The National Supply Company • Armco Drainage & Metal Products, Inc. • The Armco International Corporation • Union Wire Rope Corporation • Southwest Steel Products

PRECAST CONCRETE

MADE WITH

Lehigh Early Strength Cement

FOR MODERN FIRESAFE SCHOOL

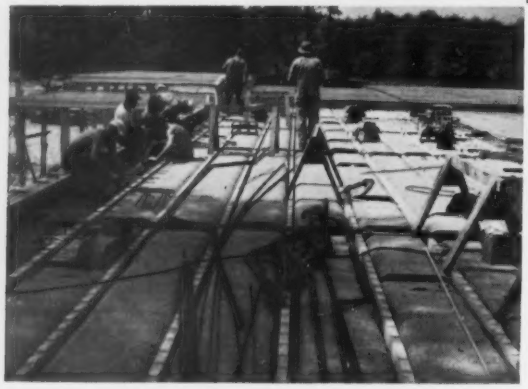
Walter Hines Page Senior High School, Greensboro, N. C.

Architect: McMinn, Norfleet & Wicker, Greensboro, N. C.

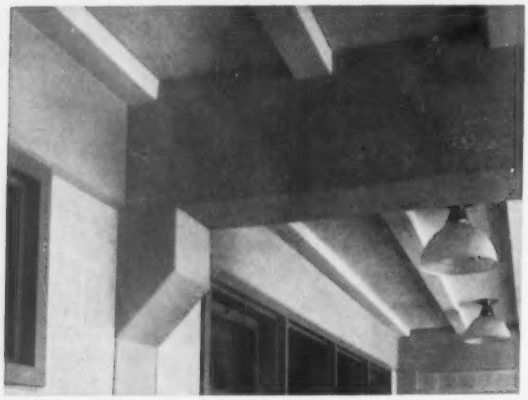
General Contractor: Brooks Lumber Co., Greensboro, N. C.

Contractor for Precast Units: Arnold Stone Co., Greensboro, N. C.

The 95,000 square feet of roof and floor area in this school is supported by 4,200 feet of columns and 4,500 feet of beams . . . all precast concrete.



Concrete filler block laid between precast joists ready to receive concrete to complete floor.



Interior closeup shows neatness of exposed precast concrete structural system.

• Low maintenance . . . fire safety . . . long life . . . neat appearance. These are advantages of precast structural concrete construction. And equally important, units are quickly cast to specification, ready for delivery when needed. Erection is quick and easy.

In precasting the various units for this school, Lehigh Early Strength Cement was used to achieve maximum production efficiency and economy.

"Structural members were cast one day and stripped from their forms the following day and moved to storage," writes Mr. M. A. Arnold of the Arnold Stone Company. "By using Lehigh Early Strength Cement, the precasting operation was completed in half the time required had we used regular portland cement."

This is typical of the advantages of Lehigh Early Strength Cement in modern concrete construction.

• LEHIGH EARLY STRENGTH CEMENT • LEHIGH PORTLAND CEMENT
• LEHIGH MORTAR CEMENT • LEHIGH AIR-ENTRAINING CEMENT

LEHIGH PORTLAND CEMENT COMPANY

Allentown, Pa.

Twenty-One-Thirty Building, Birmingham, Alabama. Architect: Wilmot C. Douglas. Tile Contractor: Daniels Tile Company, Inc. Tile Description: Field—1⅛" Squares, Random Medley; Slate and Azure Textone, Golden Range Varitone. Cut Ceramic Mosaic Mural: Assorted Porcelain and Natural Clay Colors. Color Plate 395.

Contemporary Exteriors Take Beautifully to Tile

Building exteriors everywhere today are taking on exciting new color and texture interest as more and more architects find in ceramic tile new inspiration for distinctive effects. Witness this decorative treatment for an office building using a cut ceramic mosaic tile mural against a beautifully textured tile field. The fact that tile's beauty is permanent—and so extraordinarily easy to maintain—makes it also a superbly practical choice in contemporary design.

Our Design Department will be glad to assist you in developing details for special tile treatments.

CERAMIC TILE
American Olean
CERAMIC MOSAIC DESIGN DEPARTMENT
OLEAN, N.Y.

EXECUTIVE OFFICES: LANSDALE, PA. • FACTORIES: LANSDALE, PA., OLEAN, N.Y. • MEMBER: TILE COUNCIL OF AMERICA, PRODUCERS' COUNCIL

notices

(Continued from page 58)

new offices

ARCHITECTURAL ASSOCIATES, new branch office at 3501 Atlantic Ave., Virginia Beach, Va., under direction of WILLIAM BURTON ALDERMAN, new Associate.

BRASWELL, COOK ASSOCIATES, INC., Industrial-Interior-Graphic Design, 203 E. 49 St., New York, N. Y.

STANLEY B. BRUNDAGE, Architect, Blair Bldg., Colley and Brandon Aves., Norfolk, Va.

A. JACKSON DAVIS, Architect, Medical Arts Bldg., P.O. Box 406, Petersburg, Va.

WILFRED HENSCHEL, Engineer, 475 Fifth Ave., New York, N. Y.

ALBERT W. HILGERS, Architect, 909 Portland Trust Bldg., Portland, Ore.

ROBERT A. MILLER, Architect, 8303 Melrose Ave., Los Angeles, Calif.

ROGER ORKIN, Architect, 5346 N. Lincoln Ave., Chicago, Ill.

ROUSE, DUBIN & VENTURA, Architects-Engineers, 55 W. 42 St., New York, N. Y.

EDWARD X. TUTTLE, JR., Architect, 30801 Northgate Dr., Birmingham, Mich.

WESTERN DESIGN ASSOCIATES, Interior Design—Layout—Specifications-Installation, 861 Stevenson St., San Francisco, Calif., under direction of PAUL PALMER.

JAMES SUDLER ASSOCIATES, Architects, Suite 1100, 818 17 St., Denver, Colo.

new partners, associates

JAMES T. MITCHELL, Associate in firm of HENRY SPROTT LONG, Birmingham, Ala.

WILLIAM J. CONKLIN, Associate Partner in firm of MAYER, WHITTLESEY & GLASS, New York, N. Y.

JACK BEVASH, Architect, Partner in firm of WILLIAM L. PEREIRA & ASSOCIATES, Los Angeles, Calif.

EDWARD A. SOBOLEWSKI, Associate in charge of New York office of FRED S. DUBIN ASSOCIATES, Consulting Engineers, Hartford, New York, Boston, and St. Louis.

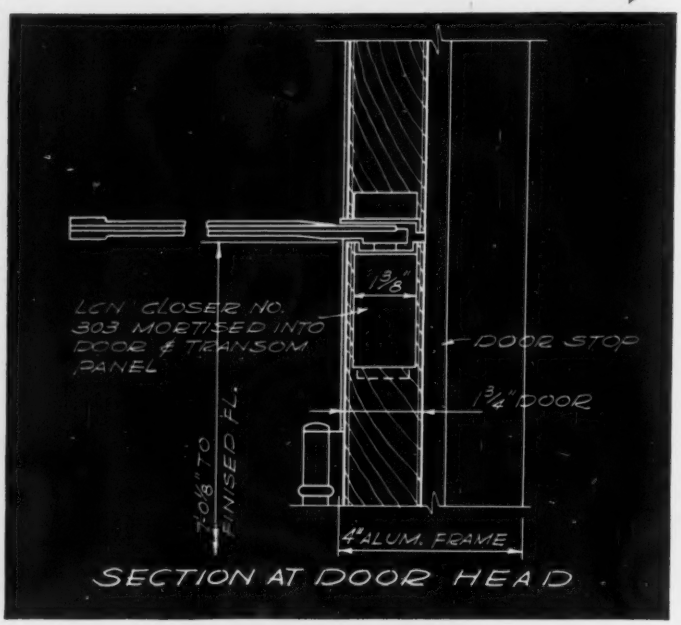
CLINTON L. MCCOMBS, new Partner in firm of KUYKENDALL & MC COMBS, Architects, El Paso, Tex.

H. BOURKE WEIGEL, and KENNETH M. MITCHELL, partners; LAWRENCE W. KONVALINKA, PHILIP MOYER, ROY E. NELSON, F. MARSHALL SMITH, P. WHITNEY WEBB, NORMAN KRUCHOW, JACK W. LIGNELL, RICHARD E. MADDOCKS, and JAMES A. GOOLSBY, as Associates, in firm of URBAHN, BRAYTON & BURROWS, Architects.

appointments

CHARLES R. GREENIDGE, Project Architect, A. M. KINNEY ASSOCIATES, Architects-Engineers, Cincinnati, Ohio.

DONALD L. PERRY, Lt. Colonel, USAF (Ret.), Director of Aero-Space Development, and H. ALDWORTH CHRISTIAN, Vice-President of Retail Store Interiors and Planning, CHARLES LUCKMAN ASSOCIATES, Planners-Architects-Engineers, Los Angeles and New York.



SECTION AT DOOR HEAD

CONSTRUCTION DETAILS

for LCN Closer Concealed-in-Door Shown on Opposite Page

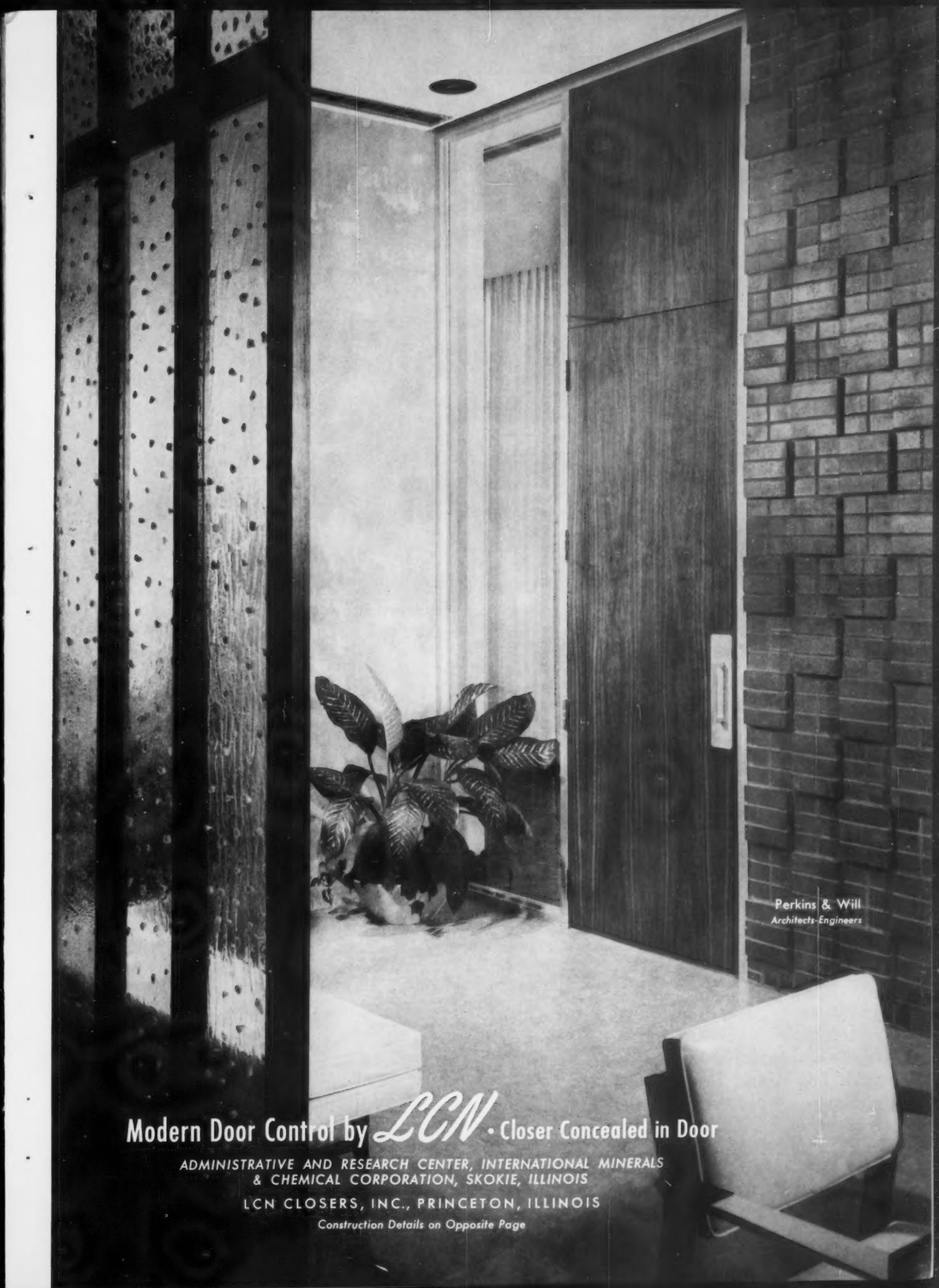
The LCN Series 302-303 Closer's Main Points:

1. An ideal closer for many interior doors
2. Mechanism concealed within door; flat arm not prominent, and provides high closing power
3. Door is hung on regular butts
4. Closer is simple to install and to adjust
5. Hydraulic back-check protects walls, etc., on opening
6. Practically concealed control at little more than exposed closer cost

Complete Catalog on Request—No Obligation
or See Sweet's 1959, Sec. 18e/La

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Canada: Lift Lock Hardware Industries, Ltd., Peterborough, Ontario



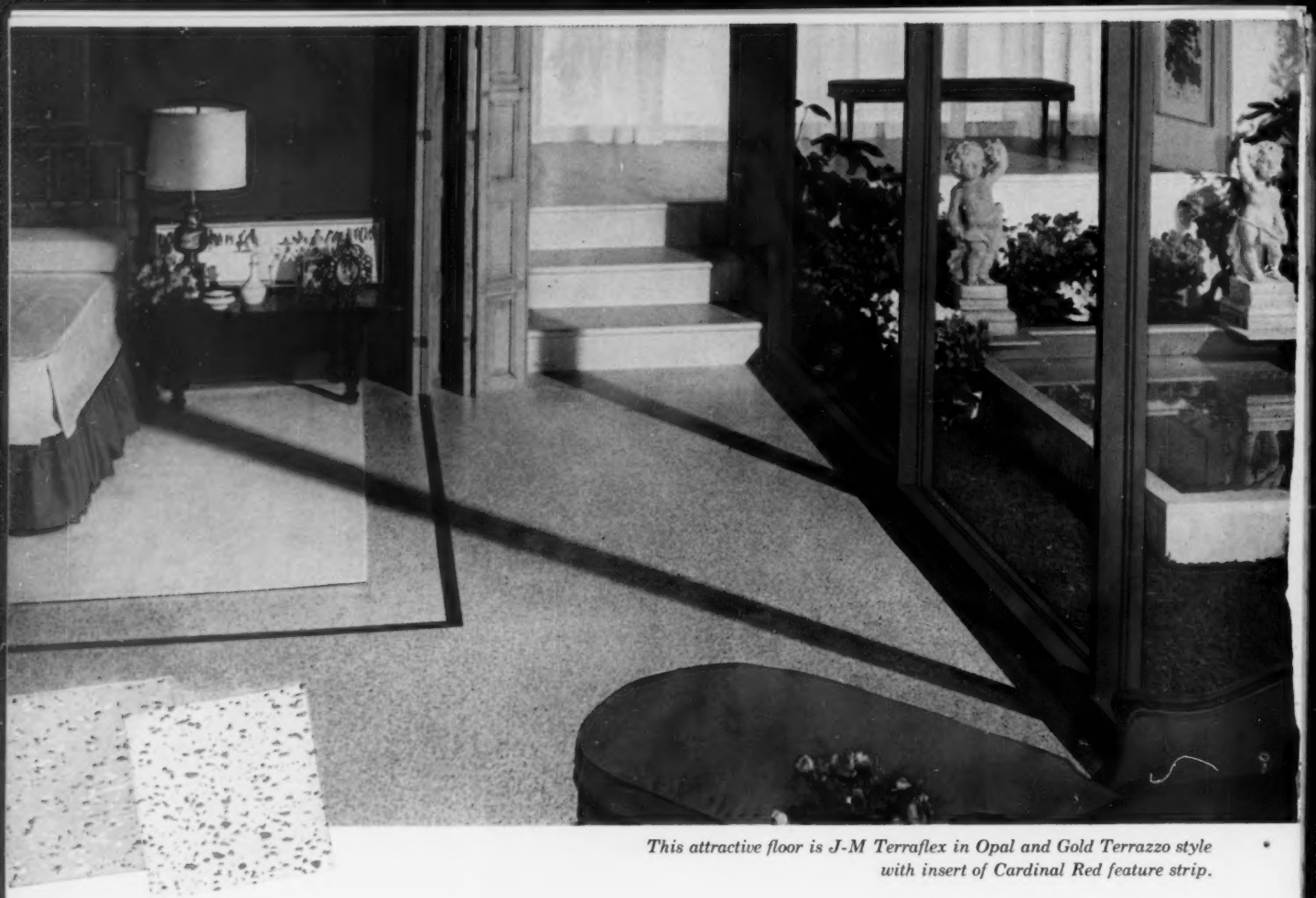
Perkins & Will
Architects-Engineers

Modern Door Control by *LCN* · Closer Concealed in Door

ADMINISTRATIVE AND RESEARCH CENTER, INTERNATIONAL MINERALS & CHEMICAL CORPORATION, SKOKIE, ILLINOIS

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page



This attractive floor is J-M Terraflex in Opal and Gold Terrazzo style with insert of Cardinal Red feature strip.

For beautiful, carefree, long-wearing floors

...specify Johns-Manville Floor Tile

OFFERING a broad selection of decorator colors and styles, Johns-Manville floor tile provides architects the means to more effectively express their design ideas in the treatment of interior flooring areas.

Whether your project involves flooring for a residential, commercial or industrial building, you'll find it easy to create a custom-look with Johns-Manville floor tile.

Johns-Manville Floor Tile is available in two types

J-M Terraflex® Vinyl Asbestos Tile in Marbleized, Cork, Terrazzo and Metallic styles, in over 40 permanent colors, provides for the creation of striking designs and intricate patterns. Actual on-the-job figures show J-M Terraflex Tile reduces floor maintenance cost as much as 50% when compared with next-best resilient type flooring. Resistance to greases, oils and alkaline moisture makes Terraflex the ideal all-purpose flooring for schools, hospitals, restaurants as well as for residential and commercial areas. Furnished in thicknesses of $\frac{1}{8}$″ and $\frac{1}{16}$″. Size 9″ x 9″.

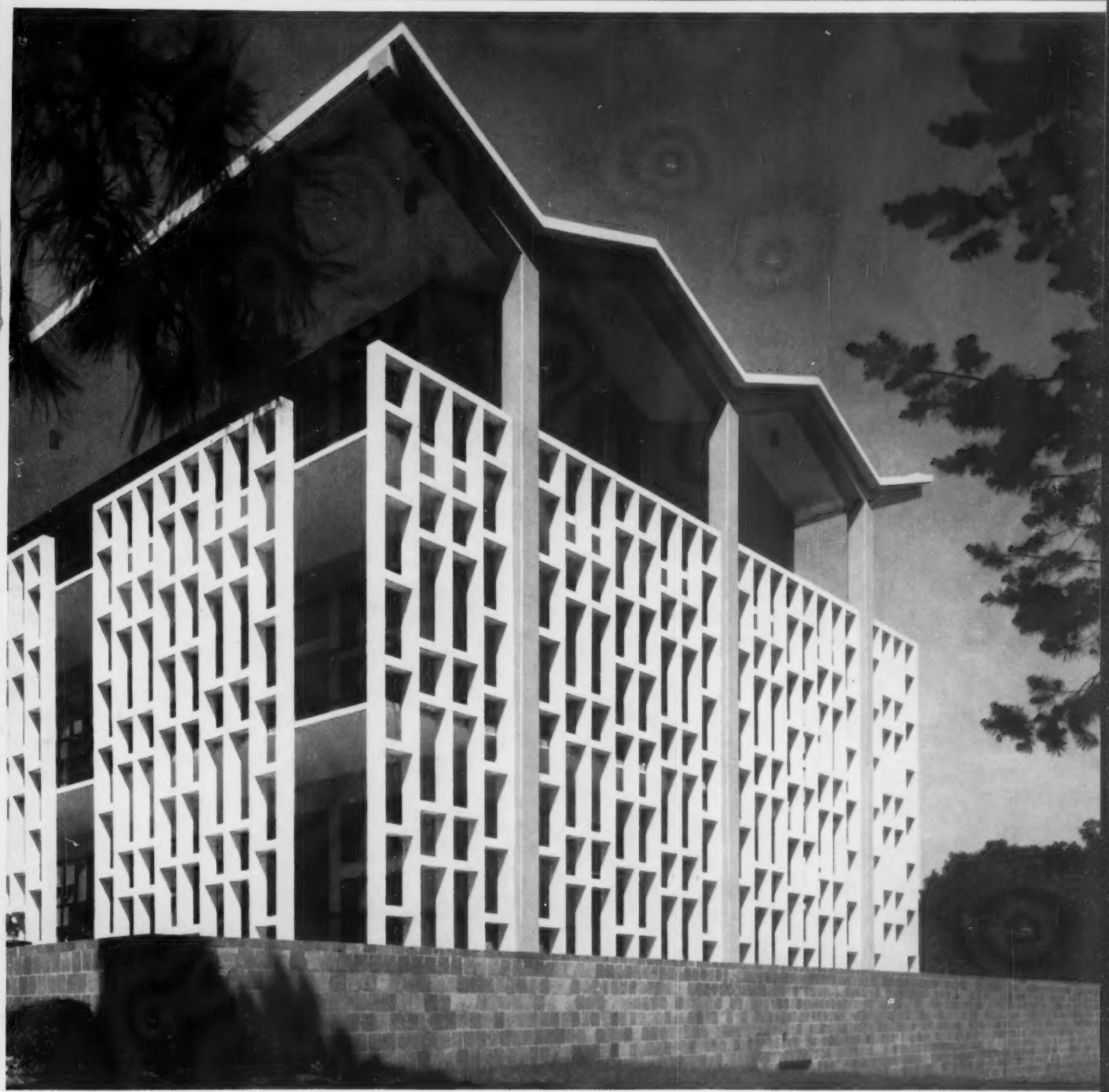
J-M Asphalt-Asbestos Tile answers the need for colorful, durable flooring at low cost. It can be used over any type of subflooring above grade, on grade and below grade. Available in Marbleized, Cork and Terrazzo styles in a wide range of beautiful colors. Furnished in thicknesses of $\frac{1}{8}$″ and $\frac{3}{16}$″. Size 9″ x 9″.

For complete information and color chart, write to: Johns-Manville, Box 158, New York 16, N. Y.

JOHNS-MANVILLE

JOHNS-MANVILLE JM PRODUCTS

PROGRESSIVE ARCHITECTURE
news report



- First Unit of Award-Winning Arts Center (above) Completed
- Undulating Umbrellas Designed for Moscow Trade Fair
- Versatile Aluminum-Screen System Is Introduced

NEWS BULLETINS WASHINGTON NEW PRODUCTS MANUFACTURERS' DATA

Perfect air diffusion for electronic computers with ANEMOSTAT AIR DIFFUSERS

High heat return from computer equipment and from high intensity lighting is efficiently controlled by air diffused through scientifically designed Anemostat Air Diffusers.

Anemostat Air Diffusers change the air in a room *once every minute* without a draft. As a result, equipment and technicians operate at peak efficiency in this comfortable thermal environment.

Write for your copy of ANEMOSTAT Selection Manual 60 which contains data on the wide-range ANEMOSTAT line.

ANEMOSTAT®

DRAFTLESS *Aspirating* AIR DIFFUSERS

ANEMOSTAT CORPORATION OF AMERICA

10 East 39th Street, New York 16, N. Y.

Representatives in Principal Cities

For more information, turn to Reader Service card, circle No. 300

FIRST UNIT OF AWARD-WINNING ARTS CENTER COMPLETED

Memphis Art Academy is Pavilion in Park

MEMPHIS, TENN.—The Memphis Art Academy, first unit in the city's million-dollar Fine Arts Center program, has now been opened to the public and has proved exceptionally popular. This is taken as a favorable augury for the remainder of the Center by the architects and the building committee. Local and national publicity for the project has been most gratifying, according to the architects, William C. Mann & Roy P. Harrover. An added boost came when it received a P/A Award Citation in the 1958 Design Awards Program.

Mann & Harrover won the Fine Arts Center commission in 1956 as a result of a local competition. The Art Academy represents a little less than half of the total expenditure for the Center as a whole.

For the cultural activities of the citizens of Memphis, the architects have created a pavilion which sits on a podium in Overton Park, a large city park. The podium is functional, since it contains crafts rooms and shops, and, at the rear of the building, a sculpture court (below left). On the first floor, or plaza level, are administrative offices, library, and the main exhibit space (below right). The top floor houses studios. The Academy is covered by a folded-plate roof which seems to float over the precast-concrete screens which shield the glass walls of the building from sunlight.

The second element of the Center will contain a Little Theater and a Concert Hall. The same undulating roof and concrete-screen pattern will serve to unify the two areas. Leigh Williams was associated in the design of the Center. Structural Engineer is John C. Brough; Mechanical Engineers, Allen & Hoshall.

Photos: Associated Architectural Photographers

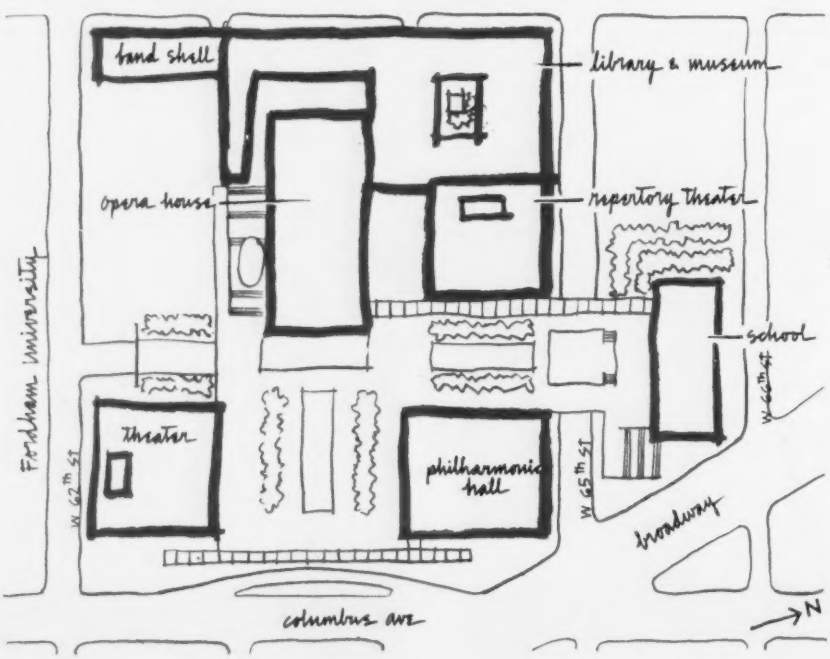
EISENHOWER BREAKS GROUND FOR NEW YORK'S LINCOLN CENTER

Philharmonic Hall Will be First Building Erected

NEW YORK, N. Y.—An audience of 12,000 heard the President of the United States and civic leaders speak at the groundbreaking ceremonies for Lincoln Center for the Performing Arts. Leonard Bernstein and the New York Philharmonic, Leonard Warren and Risë Stevens of the Metropolitan Opera, and the Juilliard School choir were future tenants of the Center participating in the festivities. President Eisenhower proclaimed that the project will act as a "stimulating approach to one of the nation's pressing problems: urban blight."

The 2400-seat Philharmonic Hall will have exposed structural-concrete piers—nine each across front and back, and eleven down each side—culminating in pointed arches formed by angled struts. Remainder of the exterior façade will be of mullioned glass. The orchestra floor will seat 1400 listeners, and three shallow balconies at rear and sides of the auditorium will hold the additional 1000. A unique feature will be a movable apron in front of the stage, which will descend to the basement for the vertical transportation of heavy instruments, rise to stage height to accommodate large groups of performers, or remain at floor level to seat an additional 100 ticketholders.

Max Abramovitz of Harrison & Abramovitz is Chief Designer. Acoustical consultants are Bolt, Beranek & Newman.

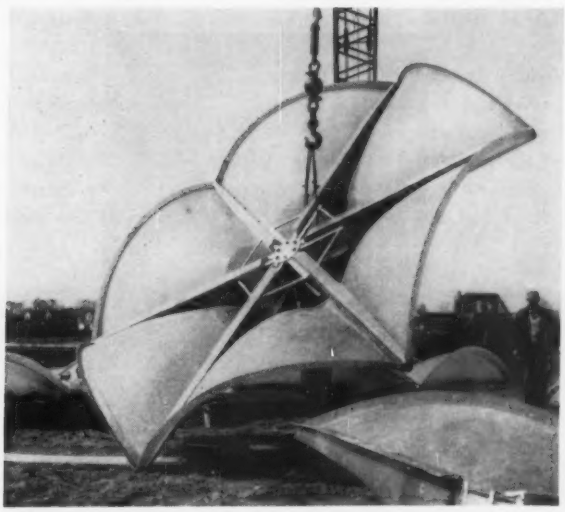


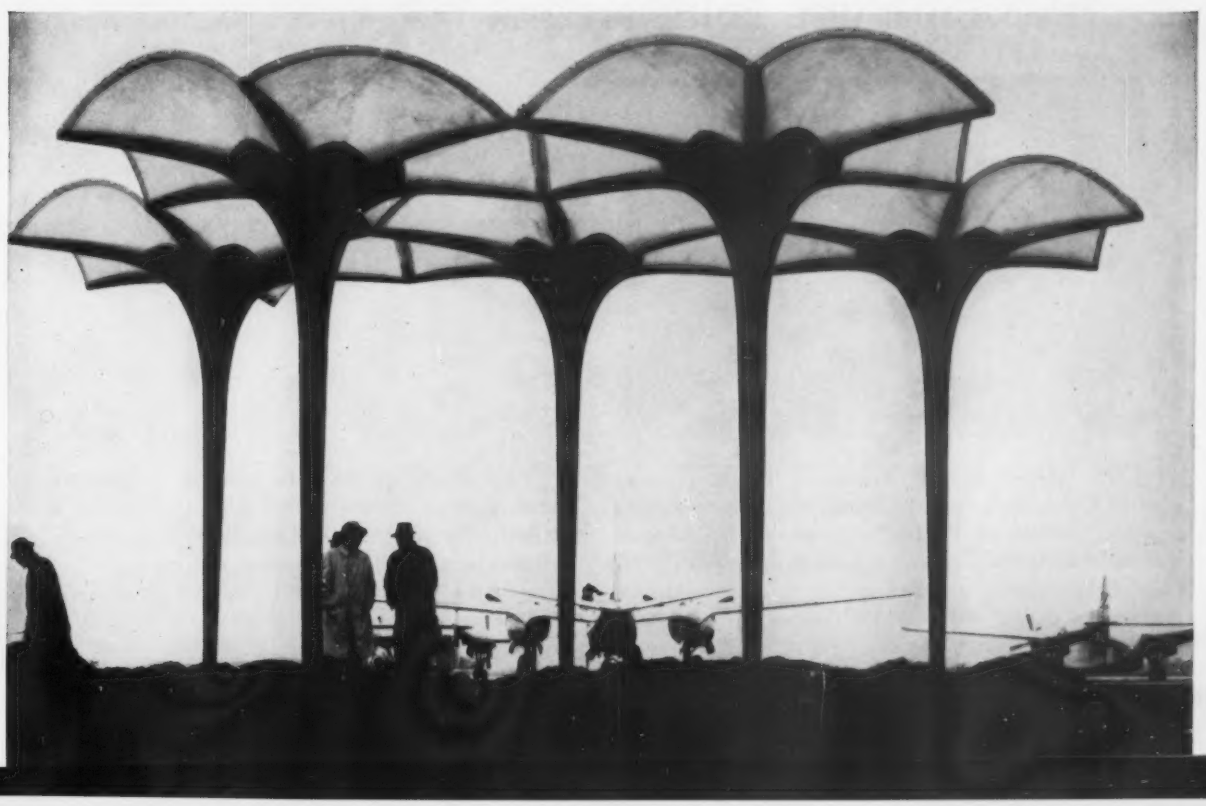
UNDULATING UMBRELLAS DESIGNED FOR MOSCOW TRADE FAIR

MOSCOW, U.S.S.R.—Soon it will look as though a swarm of gigantic butterflies had settled in the courts of the American National Exposition at Sokolniki Park here. This will be no lepidopteral manifestation, however, but a new view into architecture represented by George Nelson's all-reinforced-plastic umbrellas. Three pavilions sheltered by these structures will enclose exhibits of architecture, fashions, and the celebrated "Family of Man" photograph collection.

Nelson's structures consist of a 16-ft column supporting a hexagonal, inverted parasol-like unit four ft deep and 16 ft in diameter. The entire structure is of blonde, translucent, reinforced glass fiber. In assembly, the column is anchored in concrete footings and the roof is raised to the top by a crane (below) and bolted to the column with twelve steel bolts. To create a large pavilion, a number of these units are steel-bolted to each other. A plastic sealant is applied to the seams to prevent leakage. Columns are hollow to allow drainage of rain water from the 600-lb umbrellas. Five test units were recently erected at Mitchell Air Force Base, New York (bottom), where they successfully withstood special wind velocity tests.

George Nelson says of the structures, "as far as we know, this is the first time that a reinforced plastic has been used without the assist of other materials to make a piece of architecture." Consulting Engineer for the project is Albert G. H. Dietz of MIT.



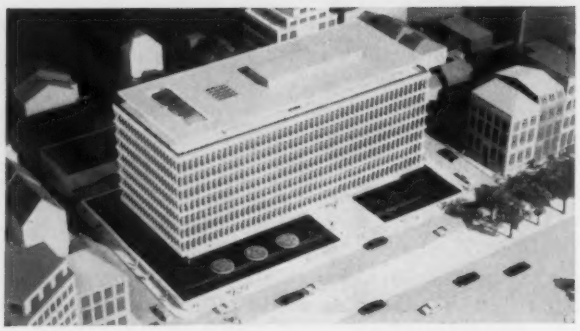


OLD BRUSSELS SQUARE TO GET NEW SOM BANK

BRUSSELS, BELGIUM—A stunning design departure for New York Architects Skidmore, Owings & Merrill will be the feature of the Banque Lambert here. Instead of the firm's well-known expert use of metal and glass, the bank will have a reinforced-concrete frame and façade of precast, reinforced-concrete structural units.

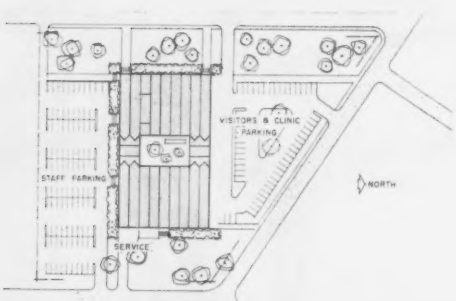
Designed for a private banking organization, the building will provide a glass-enclosed ground floor containing lobbies and banking rooms, seven floors enclosing clerical areas and private offices, and a penthouse which will serve as residence for the Lambert family. Below ground level will be two basements containing bank vaults, employe facilities, building services, and parking for 120 cars. A reflecting pool will surround the building on all sides, and large sculptures are planned for the ground floor at both front and rear.

The architects state that because of the relatively high cost of a structural-steel building in Belgium, the reinforced-concrete frame was decided upon. They also state that since a metal-and-glass façade was felt inappropriate for the expression of a concrete structure, the concrete units which form the building's exterior envelope were developed with Engineer Paul Weidlinger. These units will be placed at modular intervals of 1.50 meters around the periphery of each typical floor. The small columns thus formed transmit the perimeter floor loads directly down the façade of the building. The dead load is transmitted midway between each floor through a polished stainless steel ball-and-socket hinge joint cast into the unit. Interior columns are located along the line of core walls. Consulting Mechanical Engineers are Syska & Hennessy, Inc.



Photos: Ezra Stoller

TEXAS PSYCHIATRIC INSTITUTE DESIGN WINS PRAISE OF CLIENT



HOUSTON, TEXAS—Architects George F. Pierce, Jr., and Abel B. Pierce, Jr., report that when their design for the proposed Institute for Psychiatric Research and Education in Houston's Medical Center was presented, "the Board for Texas State Hospitals and Special Schools unanimously approved the design and took the trouble to individually congratulate us after the meeting adjourned."

The Institute will be a two-story building with interior court yard providing light and a view for the surrounding offices. The second floor will boast a continuous solar screen to give esthetic interest and reduce the summer heat load on wall surfaces. A lightweight concrete vault roof will contribute an interesting appearance and also furnish space for mechanical equipment.

ARCHITECTURAL BULLETINS

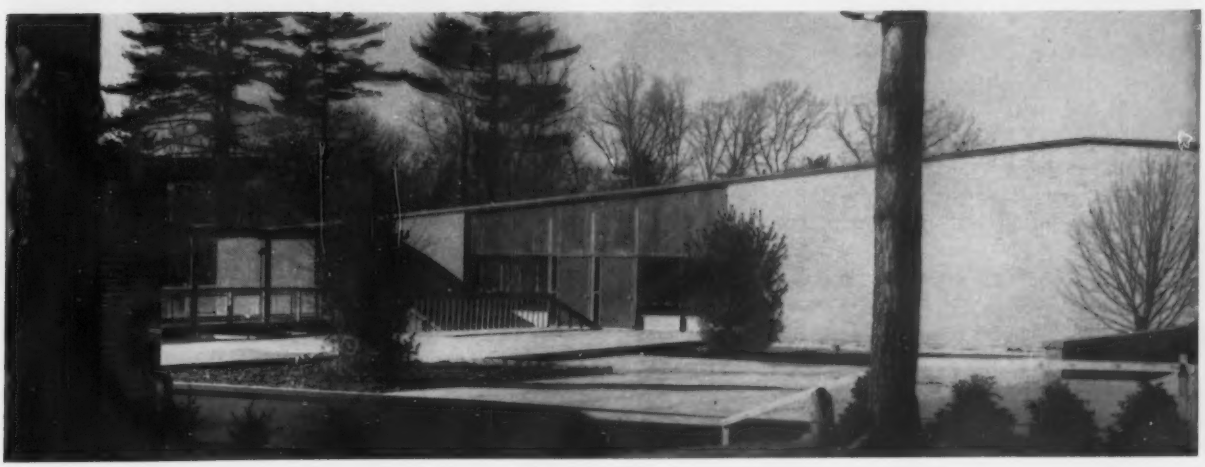
● New York's Seagram Building—designed by Ludwig Mies van der Rohe and Philip Johnson (Kahn & Jacobs, Associate Architects)—won 1959 Copper and Brass Achievement Award for its use of bronze curtain walls. Prize, consisting of bronze trophy and $1000, was given Seagram's Vice-President Edward F. McGinnis by James M. Kennedy, President of Copper & Brass Research Association.

● Thirty-day architectural tour of Europe will leave New York Oct. 17. Group will see contemporary buildings in France, Italy, Switzerland, Germany, and Netherlands; will meet with various professional groups. Tour will be led by Thomas H. Creighton, P/A Editor. Contact: McGinnis Travel Service, Inc., 160 Central Park South, New York, N. Y.

● Convention of National Council of Architectural Registration Boards occurs June 20-21 in New Orleans, just prior to AIA Convention. . . . 12th Annual Conference on Aging will take place at University of Michigan, Ann Arbor, June 22-24; theme is "Designs for Retirement." . . . American Society of Landscape Architects meets June 28-July 1, at Chicago's Palmer House. . . . "Recreation in an Expanding Leisure" is theme of 41st National Recreation Congress, Chicago, Sept. 28-Oct. 2. . . . 12th Regional Meeting of American Concrete Inst. will be held in Mexico City Nov. 3-5; will feature concrete problems and techniques in Mexico and southwest U.S. . . . Air-Conditioning and Refrigeration Industry 11th Exposition will be in Atlantic City, November 2-5.

● Two New England art festival architectural winners are shown below. Top is Schlumberger plant and offices in Ridgefield, Conn., by Philip Johnson, which won top architectural prize in New Haven, Conn., Festival of Arts. Jury was composed of Serge Chermayeff, Henry-Russell Hitchcock, and P/A Managing Editor Charles Magruder. Bottom is shown the Pollard Junior High School, Needham, Mass., by The Architects Collaborative, which got the architecture award of the 1959 Boston Arts Festival from a jury made up of Douglas Orr, New Haven; Morris Ketchum, New York; and James Fitch, Columbia University. View shows courtyard of the school.

Photo: Ezra Stoller

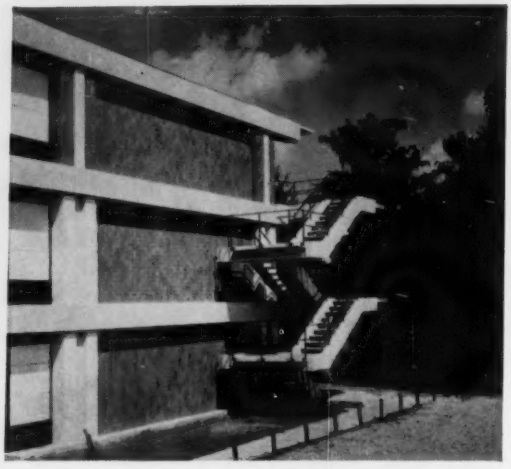


● Winner of 1959 R. S. Reynolds Memorial Award for best use of aluminum in architecture is the Sidney Meyer Music Bowl in Melbourne, Australia, by Melbourne architects Yuncken, Freeman Brothers, Griffiths & Simpson—Barry B. Patten in charge of design. Band shell covers an acre, shelters 2100 persons, was picked for its development of aluminum skin for two-story cable roof. Jury included John Noble Richards,

AIA President; Carlos Contreras, Mexico; William Caudill, Texas; Eero Saarinen, Michigan; and Robert E. Alexander, California, Chairman.

● Southland Center, Dallas, Texas, includes 42-story Southland Life Tower and 29-floor Sheraton-Dallas Hotel. Provision has been made for a future 32-story office tower. Center has five underground levels for 2500-car parking, a heliport, and extensive shopping and dining facilities. Glass mosaic curtain walls are blue, gray, and green; base is precast lightweight concrete in harlequin design. Architects: Welton Becket & Associates; Consulting Architect: Mark Lemmon; Structural Engineers: Murray Erick Associates; Consulting Structural Engineers: Edwards & Hjorth; Consulting Mechanical Engineers: Zumwalt & Vinther.

● Student Union Building at Southwestern College, Lafayette, La., looks out over a cypress-studded bayou. Building



features open stairs and quarry tile and concrete walls. Tiles are set vertically, with cinnamon and russet colors in random placing to give contrast to white concrete. Designed by Burk, LeBreton & Lamantia, Architects & Engineers, New Orleans.

● Design by The Austin Company for El Mundo Enterprises provides $15-millions communications center seven miles from downtown San Juan, Puerto Rico. Center will include newspaper publishing and radio and TV broadcasting facili-

ties, plus complete dubbing and film processing laboratories. Quarter-million feet of rental space for business and professional tenants will also be included.

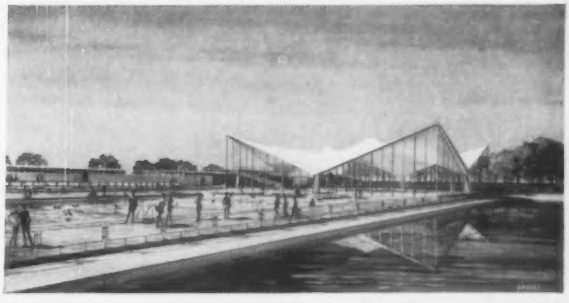
● Architect Horace W. Peaslee, 74, died in Washington, D. C.; he designed Dumbarton Oaks, Friendship House, and the Peruvian Embassy there. . . . Architect Sylvan Bien, 66, died at his New York home. Practice, known for numerous mid-town office buildings, will be carried on by son, Robert L. Bien.

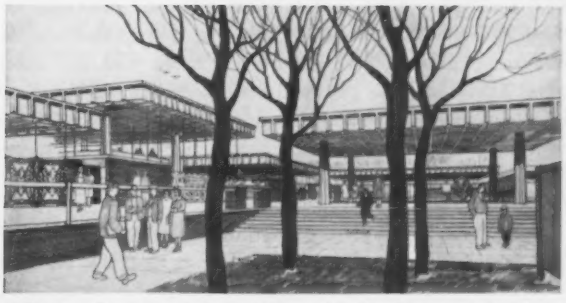
● Chicago's new 40-story luxury hotel, Executive House, features wide use of balconies on two sides. Extensive public rooms on lower floors are expected to serve tenants and convention exhibition clients. Exterior is a thin, stainless-steel curtain wall serving as spandrel panel and guard rail for balconies. Architects were Milton M. Schwartz & Associates, Inc., Chicago.

● Giant complex of buildings by Charles Luckman Associates for Avco in Wilmington, Mass., consists of six buildings: Administrative, two Laboratories, Experimental Manufacturing Building, Arc Wind Tunnel Building, and Ballistic Range Building. Six-building facility is known officialy as Avco Research & Development Division. Plan introduces large light wells or courtyards into interiors of buildings, providing same air of spaciousness as outside offices get from looking over 100-acre site. Curtain-wall exteriors feature aluminum mullions and tan porcelain-on-steel sandwich panels manufactured by client. Associate Engineers: Metcalf & Eddy; Landscape Architects: Sasaki & Walker; General Contractor: Aberthaw Construction Co.

● Paul C. Crawford of Wooster Products, Inc., Wooster, O., was re-elected as president of National Association of Architectural Metal Manufacturers. . . . President, vice-president, and treasurer of Michigan Engineering Society are Joseph E. Wilbur, Lansing; Russell E. Harrison, Detroit; and Dudley Newton, Detroit. . . . R. G. Kenly of New Jersey Zinc Company, New York, elected president of American Zinc Institute. . . . James S. Ackerman will become Professor of Fine Arts at Harvard next summer. His current work includes study of Michelangelo as architect. . . . Dr. George A. Downsbrough, Buffalo, N. Y., elected president of Scientific Apparatus Makers Association. . . . E. P. Benson of A. J. Bayer Company, Los Angeles, elected president of Tablet & Letters Division of National Association of Architectural Metal Manufacturers.

● Summer and winter swimming will be available on New York's Long Island next year. Valley Stream park commission has announced plans for three pools in city park: children's wading pool, large outdoor pool, and enclosed pool. Large doors will open indoor pool to weather in summer. Indoor pool will feature a 120-ft span, hyperbolic paraboloid roof. Architects: Frederic P. Wiedersum Associates, Valley Stream.





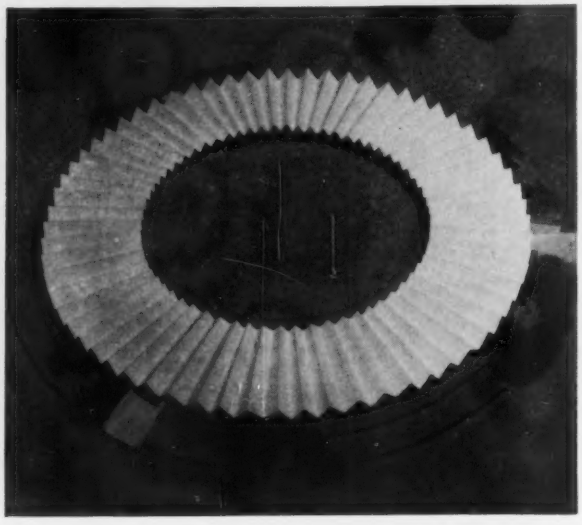
● Design for a prototype international science center for a U. S. Permanent World Data Exposition publicizing findings of International Geophysical Year won $5000 Lloyd Warren Fellowship, Paris Prize in Architecture, for Robert F. Dannenbrink, Jr., of Washington University, St. Louis. Winning design provides 11 exhibit areas for "world days," meteorology, geomagnetism, aurora and airglow, ionosphere, solar activity, cosmic radiation, longitudes, glaciology, climatic variation, oceanography, and rockets. Drawing shows main court.

● Harold L. Humes has been elected president of Building Research Institute for 1959-60. He is vice-president and director of Baldwin-Hill Company, Trenton, N. J. Robert W.

Cutler was elected vice-president. He is general partner of Skidmore, Owings & Merrill, New York. . . . Alexander Scott Carter, designer and artist of Toronto, won 1958 Allied Arts Medal of Royal Architectural Institute of Canada. . . . Architects Eggers & Higgins and Sculptor Gwen Lux won certificates of merit from New York's Municipal Art Society for their contributions to a more beautiful city. Eggers & Higgins were praised for setting Canada House back from Fifth Avenue so passers-by could see St. Thomas Protestant Episcopal Church, and Miss Lux received award for "Vapor Trails," her huge stainless steel sculpture on façade of Aviation Trades High School (April 1959 P/A, p. 151 and cover).

● Mark Rothko and Willem de Kooning will be given major, one-man shows at New York's Museum of Modern Art in 1960 and 1961, according to René d'Harnoncourt, museum director. It will be first one-man show at museum for both artists. Rothko show is scheduled for Oct. 4-Nov. 20, 1960; de Kooning's for spring of 1961.

● Nuclear Energy Committee of Northern California Chapter AIA has proposed this combined elementary school-radioactive fallout shelter. School contains nine wedge-shaped classrooms under roof of concrete and sod, within protective moat of water. Architect Albert Sigal, Jr., says "If built in the suburbs of target cities it could offer full protection against radioactive clouds that rise from a bomb burst." Aim of architect was to provide not only fallout protection but also form which would incorporate safeguards unobtrusively while offering interesting apperance for everyday use.



CSI CONVENES SOLO

CHICAGO, ILL.—The fast-growing organization of specification men—Construction Specifications Institute—held its third Annual Convention, and its first one completely independent of AIA, here last month. More than 300 delegates attended three days of serious seminars and technical meetings, made a number of awards which will now be given annually, heard two important luncheon addresses, and relaxed at a final banquet at which P/A's Editor, Thomas H. Creighton, spoke.

Philip Will, Chicago architect of the firm of Perkins & Will, speaking at the first day's luncheon meeting, told the Convention that the design professions must broaden their roles in society to emphasize the importance of an improved environment in relation to less vital expenditures. "The building industry must relate to society," he said, "as bricks relate to a house." Another luncheon speaker, Ira J. Bach, Commissioner of the Chicago City Planning Commission, described and showed slides of Chicago's Central Area Development Plan, the recently announced co-ordinated development of business, cultural, recreational and transportation programs, which the speaker called the most important Chicago planning proposal since the early Burnham plan.

An important producers' exhibit was a feature of the Convention. About ninety booths, of a very high quality of presentation, attracted an estimated 2000 people, delegates and members from the Convention itself and architects and engineers from the Chicago area.

Present officers were re-elected: J. Stewart Stein, Chicago architect, as President; Willard H. Barrows, New York, Vice-President; and Harry C. Plummer, Washington, D. C., Secretary-Treasurer. Another sign of growth and independence was announcement of the selection of George F. Lamb as Executive Secretary. Lamb will move this month from his present California home to Washington to head the staff.

CSI, founded in 1948, was slow-growing until several years ago, but since has had a phenomenal advance in membership. It was reported at the Convention that there are now more than 3500 members in Chapters in all parts of the country. Some thirty active committees are working on various aspects of specification research, development and writing, many of which reported their progress during technical sessions of the Convention.

Awards were made for "model" specifications: to Frank Stanton, for Public Structures; to Bernard Rosenblum, for Commercial Structures; to Bernard J. Parker, for Site Improvement; to John Finnegan and Donald S. Woodward, for Churches; to John J. White, for Industrial Buildings.

Fellowships were awarded, for the first time, to five members: posthumously to Ben John Small and Norman Hunter, past Presidents; to Leon Chatelain, past AIA President; Carl J. Ebert, Editor of The Specifier, CSI journal; and Alfred W. Sikes. Four Honorary Membership medals also were given: to Goldwin Goldsmith, Clarence A. Greather, William Stanley Parker, and Thomas H. Creighton.

ACTION HEARS ADLAI

NEWARK, N. J.—The first national conference of the American Council to Improve Our Neighborhoods (ACTION) was held here May 4-6.

The high point of the conference was a banquet address by Adlai E. Stevenson on "The American City—A Call for Statesmanship." Noting that the call for statesmanship is, first of all, that cities be permitted to survive the possibility of annihilation by nuclear means, he then called for action by private enterprise and government in restoring our cities.

"We are not concerned just with the new low income and minority ghettos in some cities, nor just real estate values in the downtown central business districts, nor the bedeviled commuter, nor the costly, growing traffic congestion, nor the general offensiveness of the urban sprawl. The deficiencies in our schools and communal services, like parks, playgrounds, hospitals, and the ugly outcroppings of juvenile violence are all pleading for attention and are all part of the broader task on which we are embarked—the revitalization and reinvigoration of the city as a way of life.

"It is not even a renaissance we seek; rather it is the construction of an entirely new mode of living—poles apart from the Victorian city of old. What we are concerned with is the exciting, exhilarating adventure of constructing economic, financial, social, and political tools to build—not a city—but a metropolis . . .

"As we put ourselves to the rebuilding of our cities, to the problems of their growth, we will look for leadership, a high quality of skill, in the managing of this task. But we will not buy the shibboleth that autocratic action is essential to achieve the desired result. We will not leave the subject to an anointed few.

"The municipality of tomorrow must be renewed in the image of the people's hopes and ambitions for a better life. The values to be recreated must have a sound political and economic pedestal, but they must flow from human needs."

GERMAN GROUP OBSERVES U. S. ARCHITECTURE

Seventy-three West German architects, builders, and aluminum industry officials toured the eastern U.S. recently, examining outstanding buildings featuring aluminum, participating in group meetings concerning architectural design and construction, and observing production in various aluminum plants. The trip was sponsored by Aluminium-Zentrale, E. V., a German aluminum-trade association whose managing director, W. F. Wildschutz, noted that "curtain walls and windows of aluminum will soon make their way more strongly in Germany."

The group began its tour in New York where, at a reception sponsored by New York Chapter, AIA, and Alcoa, interest ran most strongly to the city's building codes. Other cities visited on the trip were Pittsburgh; Detroit; Chicago; Lafayette, Ind.; Washington, D. C.; and Richmond, Va.

A Federal German Government representative stated that, "an enormous challenge has been presented to . . . architects and builders [by war destruction], and great strides have been taken in town planning and functional architecture."

Below is a recent view of the Düsseldorf skyline showing (right) the curtain-walled Mannesmann Building by Paul Schneider-Esleben and Dr.-Ing. Herberth Knothe, who were on the American tour.

Photo: Inge Goertz-Bauer

PROBLEMS OF PLANNING FEDERAL BUILDINGS ANALYZED

by Frederick Gutheim

An increasing number of rumors originating from persons who have seen the design indicate that Henry Shepley (of Shepley, Bulfinch, Richardson & Abbott, Boston) has arrived at a very satisfactory solution to one of the capital's most difficult problems—the new executive office building, facing Lafayette Square, in close proximity to the White House. The building stands between two smaller "untouchables"—Latrobe's Decatur House, now in the custody of the National Trust; and the Blair-Lee house, another building of the Federal period with important historical associations, now used as a guest house for distinguished foreign state visitors. Behind the Lafayette Square façade the block has other problems. There is, for example, the old Court of Claims building which according to present plans would come down, although its destruction is publicly deplored in the current exhibition, "Buildings Worth Saving," on view at The Octagon gallery. There is also the problem of the politically powerful National Grange, evicted from its Lafayette Square location and now building in the same block one of those 110 ft high, limestone front, brick-sided structures.

Other cities may have similar problems, but they are seldom well resolved. They illustrate the work of the Commission of Fine Arts, whose poorly-understood role was recently reviewed in the Washington Star in an extensive article, well summarized in the headline, "Good Taste Requires Vigilance." The architect members of the Commission now comprise Douglas W. Orr of New Haven, William G. Perry of Boston, and a new appointee, Ralph Walker of New York. Other members are a painter, sculptor, landscape architect, and the chairman, former director of the National Gallery of Art, David E. Finley.

While there is little hope the proposed East Mall will secure approval in this session of Congress, there is still a good outlook for Rep. Robert E. Jones' bill to concentrate Federal buildings in the city proper rather than to scatter them around in the suburbs as has been the fashion in recent years. While fundamentally the bill aims at concentrating Congressional power over Federal buildings in the House Public Buildings Subcommittee, headed by Rep. Jones, it will also have a powerful centralizing effect. Much that is complained of has already happened, of course. Now exempted from committee control are such building projects as the Atomic Energy Commission, the Central Intelligence Agency, and the National Aeronautics and Space Administration. These are already going ahead. Consequently, the benefits of the measure will be of a long-range nature.

The big Federal building projects on which design is now in process and which will soon be up for appropriations are the Civil Service Commission building (located in Foggy Bottom, near the new State Department building); a $23,000,000 building for the Geological Survey that seems pretty definitely scheduled for the Maryland suburbs; and the $44,000,000 new building of the Court of Claims that is planned for the mall in the southwest Washington redevelopment area. Also on the mall are Federal Office Building No. 5, really two structures standing at the north end of the mall, which it has been presumed will be designed by I. M. Pei, who conceived the entire mall scheme; and what is called in the bureaucratic vernacular "FOB 8"—another large office building.

● The Washington Board of Trade (which serves as our chamber of commerce) since 1939 has sponsored an annual award in architecture as an incentive to higher design of private buildings in the capital city. The use of outside juries has been an important factor in maintaining the high standard of the awards. This year's selections were on the conservative side, with three awards each out of the total of 15 going to the firms of Corning & Moore, and Chatelain, Gauger & Nolan. The most dashing of the winning entries was that of McLeod & Ferrara for the Augustana Evangelical Lutheran Church. Another local building of considerable merit which recently received recognition was Joseph Miller's small Town and Country Day School in Wheaton, Md., a building that should set the pace for public-school building activity, honored by the American Association of School Administrators.

● The Chantilly Airport, of which I wrote last month, is still meeting reluctance from the major air lines. Not only have they yet to come forward in support of the radical new airport design concept offered by Eero Saarinen and FAA, using mobile lounges; they also have yet to present any real assurance they will use the airport at all.

● It looks as if we will have a housing bill after all. June is the traditional month for decision in this sector of public policy, but the support of Speaker Rayburn makes it just a matter of time until the intransigent chairman of the House Rules Committee comes to terms. His agreement to break a tie vote in committee certainly leaves him in a stronger position than any other solution would.

Housing this year should reach an all-time high if the expectations of officials given the House Appropriations Committee are fulfilled. Last year saw 1,209,000 dwellings started, a figure to be exceeded by this year's anticipated total of 1,285,000. Housing Administrator Norman P. Mason also offered the forecast that such lagging segments of the housing effort as homes for the aged, rental housing, and urban-renewal projects would be stepped up this year.

introducing...

All-Glass*

by halo

ALL-GLASS

*"ALL-GLASS" trims fit standard Halo housings

100-WATT SQUARE HOUSING SIZE 8¼"x8¼" PREWIRED

SH1—HOUSING

15—ALL GLASS TRIM 10"x10"

150-WATT SQUARE HOUSING SIZE 10¼"x10¼" PREWIRED

SH2—HOUSING

25—ALL GLASS TRIM 12"x12"

100-WATT—ROUND HOUSING SIZE 6¼" DIA. PREWIRED

H7—HOUSING

75—ALL GLASS TRIM 7¾" DIAMETER

150-WATT—ROUND HOUSING SIZE 10" DIA. PREWIRED

H8—HOUSING

85—ALL GLASS TRIM 12" DIAMETER

RESEARCH PAYS OFF!

Halo has developed a recessed incandescent lighting unit called "ALL-GLASS,"—that combines elegance, efficiency, and low cost. ALL-GLASS trims are available in 100 Watt and 150 Watt square sizes and 100 Watt and 150 Watt Round sizes.

FEATURING:

1. **150% greater luminous surface**
2. **Corrosion proof (no metal frames to rust)**
3. **40% greater light output**
4. **Fits standard Halo housings**

To relamp, pull down "ALL-GLASS" trim on torsion spring.

"ALL-GLASS" units provided extra wide-angle distribution—ceiling illumination—and 40% more light output.

halo LIGHTING PRODUCTS INCORPORATED
3232 W. CHICAGO AVE. • CHICAGO 51, ILL.
NEW YORK • CHICAGO • LOS ANGELES

For more information, turn to Reader Service card, circle No. 301

Photo: Alexandre Georges

GLASS WORKS MOVES INTO GLASS TOWER

Corning's Headquarters Completed

NEW YORK, N. Y.—The national offices of Corning Glass Works, built as "an enduring monument to the use of glass as an architectural and decorative material," opened here recently. See-through and spandrel areas of Solex glass alternate every six feet up the entire length of the 28-story building to create a shimmering, green-tinted tower. The north-west corner of the building has been recessed to provide a 3000 sq ft park and fountain area on Fifth Avenue. From this plaza, the tower rises its full 28 stories in an unbroken line; at the rear of the building, set-backs occur. The somewhat stark lobby (below left) is highlighted by a geometric, abstract mural by Joseph Albers done in gold leaf on white marble.

Products of the glass company have been used profusely throughout the structure, from a wide variety of lighting panels and acoustical ceilings, to newly-developed glass draperies which reduce glare and maintain thermal comfort, and eliminate the need for venetian blinds. Draperies are shown in executive office (below right).

Harrison & Abramovitz & Abbe were architects, with Structural Engineers Edwards & Hjorth, Mechanical Engineers Jaros, Baum & Bolles, Electrical Engineers Ebner Associates, and Builder George A. Fuller Company. Office interiors by Designs for Business, Inc.

Safest switches known

—in every size from 30 to 1200 amps

Large or small, BullDog Clampmatic® Vacu-Break® Safety Switches provide *maximum* protection . . . meet most every switching need. They provide added safety because of these two exclusives: The unique Clampmatic spring increases the pressure against contact jaws . . . assures clamp-tight connections . . . faster break . . . *really safe operation*. Vacu-Break action snuffs arcs immediately . . . reduces pitting and burning of contacts for long, trouble-free switch life.

BullDog's "Big Three" safety switches, the "Master", "Junior" and "Rain-tight", assure positive switching . . . virtually eliminate costly maintenance. Give your customer this extra safety, extra performance now with BullDog Vacu-Break Safety Switches.

For safety's sake buy Vacu-Break

BULLDOG ELECTRIC PRODUCTS DIVISION
I-T-E CIRCUIT BREAKER COMPANY
BOX 177 • DETROIT 32, MICHIGAN

In Canada: 80 Clayson Rd., Toronto 15, Ont. Export Division: 13 East 40th St., New York 16, N.Y.

PARK-NEAR-YOUR-ROOM TO BE FEATURE OF SAN FRANCISCO HOTEL

SAN FRANCISCO, CALIF.—Seven of the 15 guest-room floors of the proposed San Francisco Hilton Hotel will have parking areas on the same level as the rooms. Guests arriving by car will use a special automobile lobby entrance, and drive up ramps in the core of the structure, to their floors. Space for about 400 cars will be available on floors four through ten. A three-level basement garage—utilizing attendant parking—will hold an additional 300 cars.

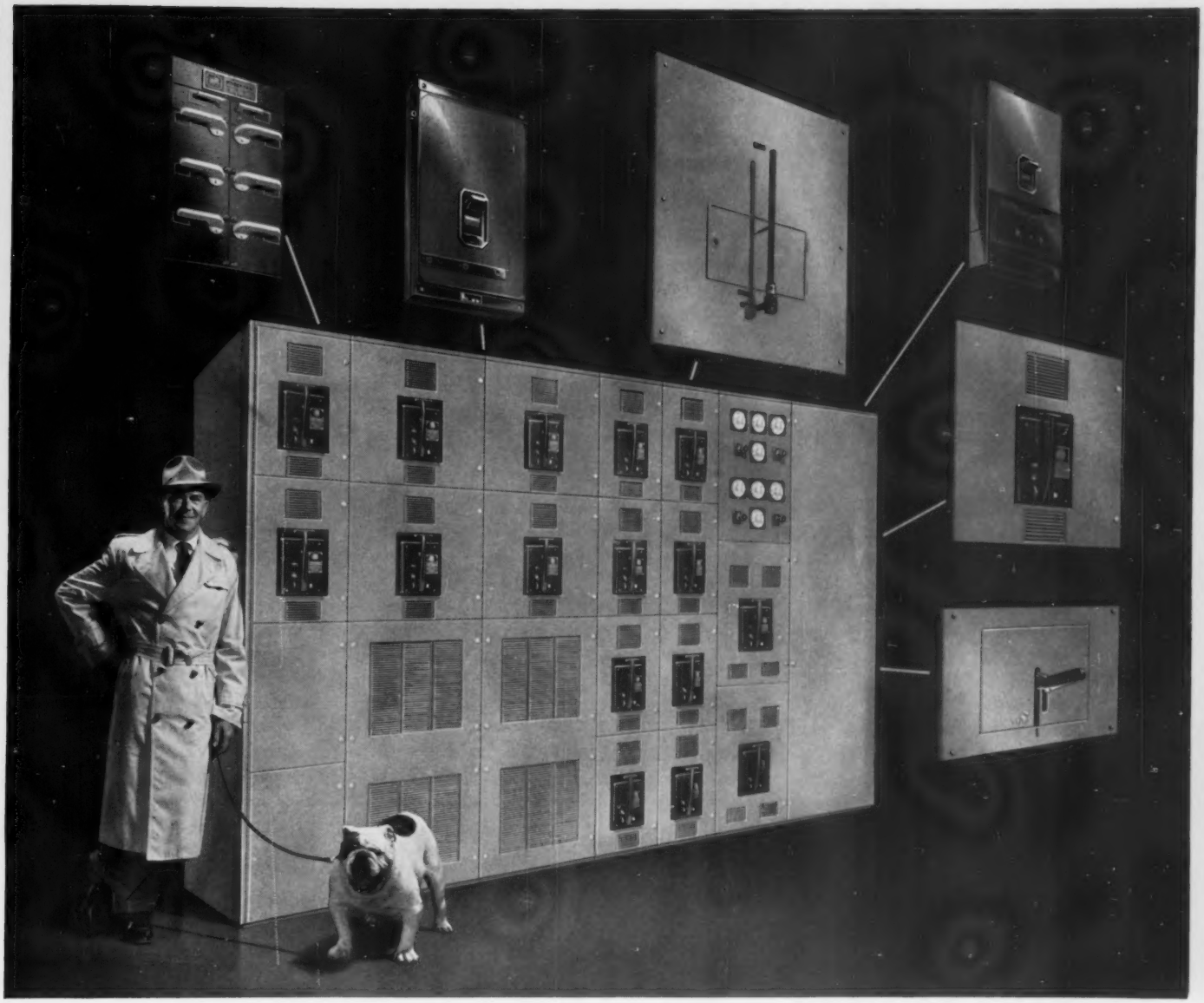
The top four floors of the hotel will surround a landscaped courtyard sporting an outdoor swimming pool. These rooms will be furnished in "resort style" and will have floor-to-ceiling, sliding glass doors on the courtyard. There will be two "Imperial Suites" at this level. All rooms in the hotel will have outside, floor-to-ceiling windows—acrophobes take note. The ballroom will afford 20,000 sq ft of space divisible into nine smaller rooms. There will also be nine separate meeting rooms on the floor above the ballroom. Other public spaces in addition to the main lobby will include a main dining room, a cocktail lounge, a coffee house, and two specialty restaurants. A plaza with planting, pool, and sculpture will be between the hotel and a proposed 22-story office building.

William B. Tabler, New York, is architect of the hotel and office building. David T. Williams, Inc., will decorate the hotel interiors.

HONG KONG HOSTELRY DESIGNED BY TRANS-PACIFIC ASSOCIATION

HONG KONG—Architects from two members of the British Commonwealth of Nations—Canada and Hong Kong—have collaborated on the design of a hotel here. The Victoria Park Hotel, which is expected to reach completion in April 1960, was designed by Toronto architects and engineers, John B. Parkin Associates, with associated architects and engineers, Wong & Ng, of Hong Kong. Prof. Gordon Brown of Canada was consulting architect.

The Victoria Park Hotel will rise 15 floors to a mechanical penthouse and roof terrace floor, topped with an elevator penthouse floor. Twelve of the floors will be guest-room floors, containing 240 guest rooms. These rooms will be interconnected to provide flexible arrangement of two-room and three-room suites. In addition to the lobby, the ground floor will have a large cocktail lounge and two adjacent private dining rooms. These rooms, which will accommodate 40 persons apiece, will be opened to create additional space for the lounge, or closed to serve as smaller meeting rooms. A dining room and kitchen on the first floor will serve 250 persons. The dining room will be converted for night-club use in the evening. Construction on the lower three floors will be reinforced-concrete portal-frame construction, and reinforced-concrete cellular construction on the tower floors.



ANNOUNCING: THE NEW BULLDOG DF-60
UNCHALLENGED FOR VERSATILITY

BullDog's new DF-60 lets you put everything from large air circuit breakers to small Vacu-Break® units in one space-saving enclosure. It will handle any of the following light-duty or heavy-duty switch units . . . in any combination:

- New I-T-E K-line back-connected air circuit breakers, 225 to 4000 amperes
- I-T-E Molded Case Circuit Breakers, back-connected or panelboard-mounted, 15 to 800 amperes
- I-T-E Cordon* Circuit Breakers, back-connected, 15 to 600 amperes
- Fused Pressure Switches, back-connected, up to 4000 amperes
- BullDog DF-30 fused switches back-connected, 30 to 1200 amperes
- BullDog Vacu-Break® units in panelboard mounting, 30 to 600 amperes

In addition there is room for current-transformer equipment and metering systems. But duct systems up to 4000 amperes can be connected directly to the board.

A call will bring your local BullDog field engineer to assist you in selecting the type, combination and arrangement of units needed to handle your clients' power load . . . help supervise installation. You'll find the new DF-60 will ease your plant layout problems, too. For complete details send for Switchboard Bulletin SB-555.

*Trademark registered by I-T-E Circuit Breaker Company

BULLDOG ELECTRIC PRODUCTS DIVISION
I-T-E CIRCUIT BREAKER COMPANY
BOX 177 • DETROIT 32, MICHIGAN

In Canada: 80 Clayson Rd., Toronto 15, Ont. Export Division: 13 East 40th St., New York 16, N.Y.

For more information, turn to Reader Service card, circle No. 303

p/a news report: **financial**

INFLATION ATTITUDES EXPLORED; CONSTRUCTION TRENDS ANALYZED

by William Hurd Hillyer

When your narrator was a small boy he was taken for a walk by an elderly man who had been an army officer. As we came close to a woods a snake started across our path. The major took a firm stand, raised his cane and delivered what appeared to be a mighty blow. Undaunted the reptile wriggled away. With a knowing smile, the major said: "I could have slain it but perhaps after all it is harmless." A current school of thought concerning inflation recalls the major's pronouncement.

Some authorities do not consider price controls the antidote to inflation; they view them not as the cause but as the reflection. These experts place the blame on persistent Federal budget deficits, "financed in such a manner as to swell the money supply." Says Banking Magazine, "What is the point of spending X-billion yearly on industrial research if an inadequate depreciation allowance plus inflationary cost-increases make it difficut or impossible for industry to use the results." On the other hand Morgan Guaranty Trust of New York looks for "plant and equipment outlays" in this year's second quarter because the recovery movement has not yet developed "any demonstrable distortions or excesses." Concerning the third quarter certain analysts fear that the general business pattern may be somewhat "sluggish" due to a possible decline in residential construction expenditure, as buoyancy in investment will be needed to cover an expected leveling off, accompanied by a possible lessening of Federal expenditure.

A Boston authority sees a brightening in the business picture with "industrial production and demands for goods increasing far more rapidly than had been predicted. This will bring new life to the industrial realty market." The production of housing is still "setting a fast pace." First National City Bank of New York declares that the business upturn and recovery, which has been under way for a year and a half, "is now an accomplished fact."

● Construction contracts for March set a new high for the month, with gain of 23% over 1958's analogous month to a value of $3,339,934, with home building strong and carrying total well above last year's. Dwelling unit contracts rose 44% to $1.5 billions; single family homes led with a 49% rise. Hospitals and housing contracts were up 41% to $3.6 billions. Non-residential contracts fell 6% to $9.1 millions. Manufacturing buildings dropped 2%, which Mr. Magee of F. W. Dodge Corporation feels lends "some stability," as they were 10% ahead of 1958's first quarter. The fate of the $11,600 to $17,800 home appears better for April to the builders. Under FHA "agreements to insure," amounting to some $3.5 billions—building projects proceeded even though the agency was unauthorized to cover them all, it having only between $1.2 and $1.4 billions on hand. During April FHA held firm via repayments and cancellations.

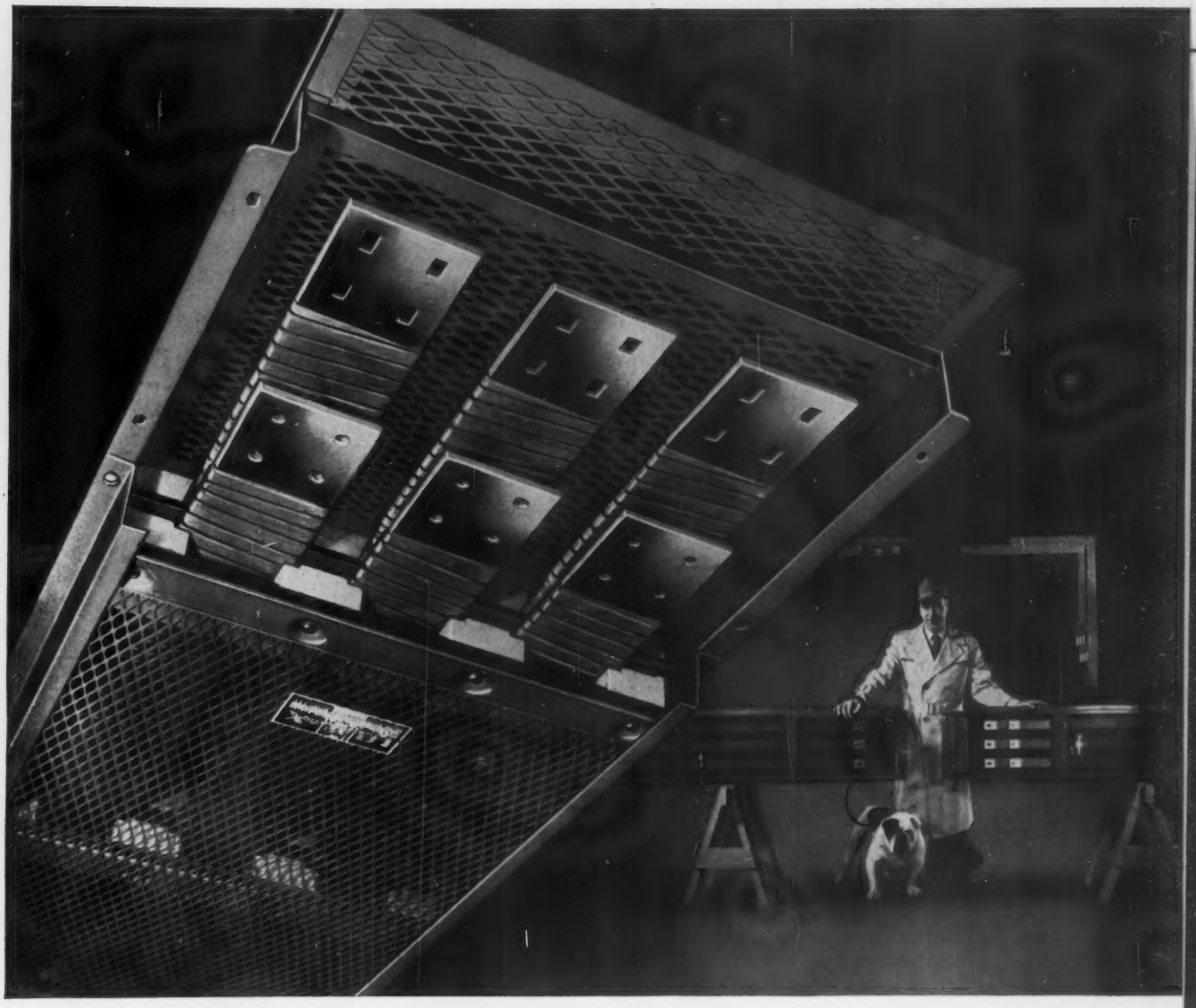
● A New England analyst notes a burst of activity in the long dormant rental-housing field—this despite the interest in home purchasing. Many people still prefer for various reasons to rent houses or apartments and the supply is diminishing. Rents are high enough to attract investment and make such properties acceptable mortgage prospects. However, the National Association of Real Estate Boards calls attention to the fact that a strong demand by borrowers on buildings in select locations has made it difficult to attract investment to property less well situated. To quote the association: "Institutional investors, while reported actively to be seeking higher yields, have traditionally concentrated in maximum quality properties," thereby achieving a higher return.

● The spectacular rise of 111.3% in steel ingot production has eased off, although users are still stocking up. Aluminum buyers have also been stockpiling in case of a strike. Key grade fir lumber is at $78 per thousand board feet, (near 1956's high), is attracting heavy buying. One Oregon wholesaler says, "A lot of construction work needs lumber, but the buyers will go only so far and it looks as if we were nearing the barrier. Too much of this price increase has been forced by speculative buying and not by firm business."

● A research institute points out that under the new tax law, now in effect, small corporations can be taxed as if not incorporated and avoid the 52% corporate tax; partners and sole proprietors can get the corporate tax-deductions without paying the corporate tax. In addition, sole proprietors and partnerships also enjoy the following tax deductions: life insurance, pension plan, medical expenses, salary when sick. This great tax saving should bring many into the architect's ken as home and store builders.

● The volume of new state and local-government borrowings has exceeded the capital market interested in tax-exemption issues. In the words of a bond authority: "There is a sort of cycle in tax exempt bond offerings, at least so far as some large issuers are concerned. The Public Housing Administration's subsidized issues are a case in point, as a further offering" in excess of $100 millions is approaching. The Bond Buyer's index shows the two-bond level at 3.50% with a gain of seven bases points. (Last September's 3.59% was the highest in modern times.)

● A qualified observer in Massachusetts asks if there is a trend back to the city. He answers this by stating that real estate records show more activity in urban properties than has been noted for some time. The call for rentals, running from high-priced apartments to flats in two or three-family houses, is growing apace. This has already brought about a fair amount of new construction along with a growing volume of modernization for older houses. However, there is no sign that the move to the suburbs is lessening. It would seem to show that there are some people who, after trying life out-of-town, discover that they prefer to return to city dwelling. Perhaps it would be well for architects to look around and see if this condition is present in their locality.



"PAIRED PHASING" HELPS YOUR CLIENTS MEET THE LOAD...WITH POWER TO SPARE

Lo-X Bus Duct assures lower balanced voltage drop . . . extra current carrying capacity

Increase the safety margin against unexpected power fluctuations! BullDog BUStribution®—using a paired phased arrangement of aluminum bus bars—neutralizes magnetic fields, assures uniform balanced current distribution and low voltage drop. Exclusive "paired phasing" acts to distribute current equally throughout the cross-sectional area of each conductor . . . balances current among all conductors . . . reduces impedance to a minimum. Full use of the conductor material assures extra capacity, allowing the LO-X feeder system to operate at top efficiency.

And LO-X offers these additional operating advantages. The duct has no moving parts . . . thus nothing to wear. It is prefabricated . . . adapts to any building contour. Exclusive scarf-lap joints assure rigid connections . . . speedy installation. BullDog's five-step silvering process of aluminum bus bars guarantees maximum conductivity at connection points. Special spring-type cup washers at the joints give a positive *bolted* connection.

For a distribution system that guarantees top performance and long, continuous service specify *Bus Duct by BullDog* . . . it will readily adapt to your client's changing power needs.

BULLDOG ELECTRIC PRODUCTS DIVISION
I-T-E CIRCUIT BREAKER COMPANY
BOX 177 • DETROIT 32, MICHIGAN

® In Canada: 80 Clayson Rd., Toronto 15, Ont. Export Division: 13 East 40th St., New York 16, N.Y.

For more information, turn to Reader Service card, circle No. 304

THE

WARE

NAME

STANDS FOR

49

YEARS

OF

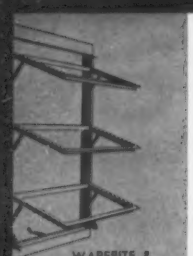
ENGINEERING

LEADERSHIP

. . . assures you

dependable performance

University of Miami Women's Dormitory • Robert M. Little, Architect • J. E. Peabody, Norman J. Dignum, Engineers • M. R. Harrison Construction Co., Contractor



Whatever window treatment you may be planning next, surely the most fundamental requirement of the windows you specify is *dependable performance*. For nearly half a century the Ware name in industry has stood for engineering leadership and the kind of precision quality that assures top performance. Our engineering department is ready . . . and able . . . to help you meet the most challenging requirements, in institutional, commercial, or residential work.

Why not send for our new Curtain-Wall brochure? No obligation. Please write Dept. PA-6, WARE LABORATORIES, INC. 3700 N.W. 25th ST. • MIAMI, FLORIDA

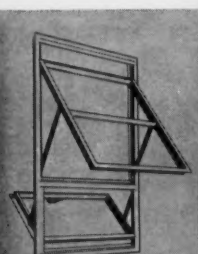
MEMBER

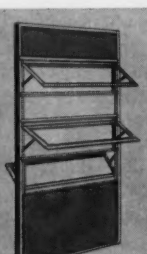
For more information, turn to Reader Service card, circle No. 305

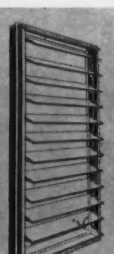
Aluminum

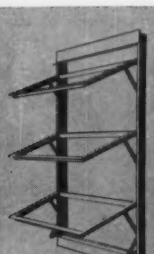
WARE

Windows









USE THIS POST-FREE CARD TO REQUEST...

MORE DATA ON NEW PRODUCTS which will be forwarded to you if you circle on Return Card the numbers of Products that interest you on the following pages;

FREE MANUFACTURERS' DATA you choose (and circle on Return Card) from following listings of bulletins, catalogs, and brochures;

MORE DATA FROM ADVERTISERS if you circle on Return Card the numbers corresponding to numbered advertisements following.

June 1959 — This card good until August 1

NAME _____ POSITION _____

FIRM _____

STREET _____ CITY _____ ZONE _____

STATE _____

I am interested in:

Products No. 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118
119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145
146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172

Manufacturers' Data No. 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218
219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245
246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272

Advertisement No. 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318
319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345

Reply Cards for Your Convenience

USE THIS POST-FREE CARD FOR...

Your copy of the new SELECTED ARCHITECTURAL DETAILS with your subscription to P/A, the magazine offering the most complete *professional* coverage of advances in architectural design, structural and technical information, interior design, office practice problems, New Products, and Manufacturers' Data.

WORLD'S LARGEST ARCHITECTURAL CIRCULATION

Exclusively for: Architects, Engineers, Designers and Draftsmen

NEW SUBSCRIPTION ORDER: Please send me the new PORTFOLIO OF SELECTED ARCHITECTURAL DETAILS and enter my subscription to PROGRESSIVE ARCHITECTURE for:

☐ One year $5. or Three years $10. ☐ (saves $5.)
☐ Bill me later Payment enclosed ☐

I am an
☐ ARCHITECT
☐ ENGINEER
registered in .....

If you are a consulting engineer, or employed by an engineering firm, please indicate which branch:
☐ Mechanical ☐ Civil
☐ Electrical ☐ Other

NAME: _____
TITLE OR POSITION: _____
FIRM NAME: _____ If owner, check here ☐
TYPE OF BUSINESS: _____
MAILING ADDRESS: _____
CITY: _____ ZONE: _____ STATE: _____

☐ New Subscription ☐ Renewal

Foreign Rates: 1 year $10. 3 years $20. (Canada: same as U.S.)

FIRST CLASS
PERMIT NO. 1538
NEW YORK, N.Y.

BUSINESS REPLY CARD
No postage necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

SERVICE DESK
PROGRESSIVE ARCHITECTURE
430 PARK AVENUE
NEW YORK 22, NEW YORK

P/A NEWS REPORT HELPS YOU...

to obtain information about the New Products announced monthly; up-to-date technical Bulletins, Catalogs, and Brochures offered by manufacturers; and full information about the Advertisements that interest you. These are needed for your architectural and engineering specifications.

PROGRESSIVE ARCHITECTURE

FOR

FULL INFORMATION

Reply Cards for Your Convenience

FIRST CLASS
PERMIT NO. 1538
NEW YORK, N.Y.

BUSINESS REPLY CARD
No postage necessary if mailed in the United States

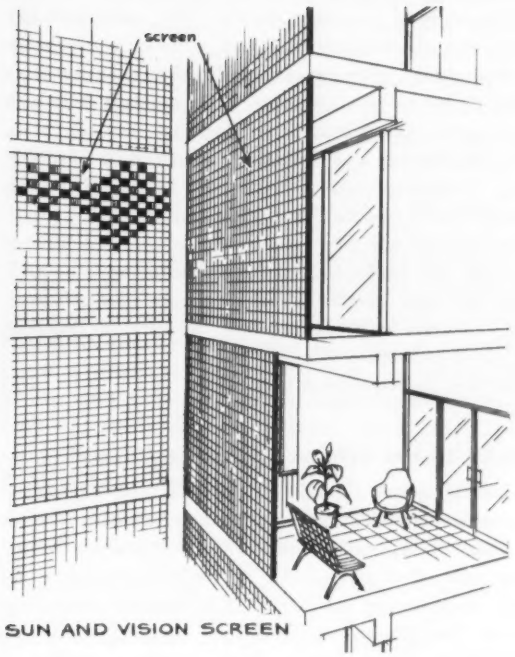
POSTAGE WILL BE PAID BY—

CIRCULATION DEPARTMENT
PROGRESSIVE ARCHITECTURE
430 PARK AVENUE
NEW YORK 22, NEW YORK

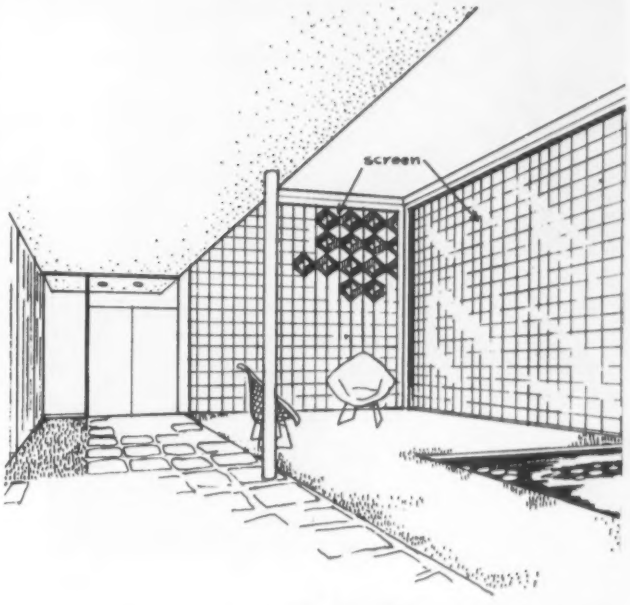
PROGRESSIVE ARCHITECTURE PLANS

Every month, a fully rounded program of *professional* features prepared for you by Editors with architectural and engineering backgrounds, assisted by an experienced Staff. You receive...

ANALYSIS OF NEW BUILDINGS
MATERIALS AND METHODS OF CONSTRUCTION
SELECTED DETAILS
PRACTICE OF ARCHITECTURE
SPECIFICATIONS · LAW · FINANCE
INTERIOR DESIGN DATA
NEW PRODUCTS
MANUFACTURERS' DATA
NEWS OF PROFESSIONAL INTEREST



SUN AND VISION SCREEN



SOLAR SHADING

VERSATILE ALUMINUM-SCREEN SYSTEM IS INTRODUCED

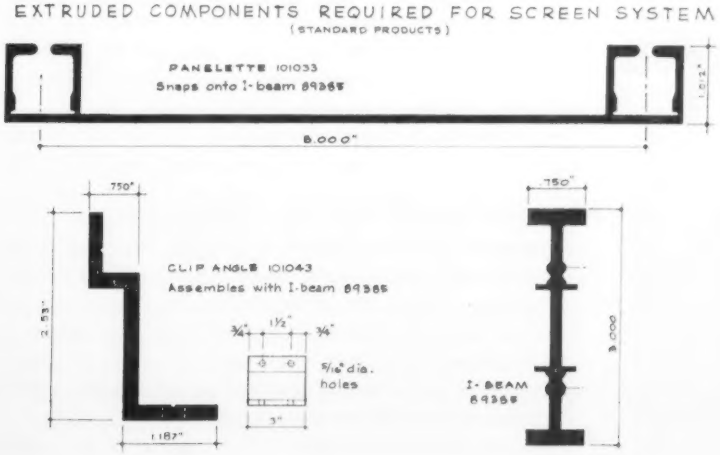
Three-Part Assembly Easily Mounted

An all-aluminum sun-shading and decorative wall system has been introduced, appropriate for both exterior and interior use. "Sol-Dec" can be used to create a screen for all or part of an exterior wall, to "face-lift" outdated buildings, to conceal water towers and elevator penthouses, to provide privacy for terraces, gardens, and swimming pools, and as interior panels in public spaces such as lobbies and reception rooms.

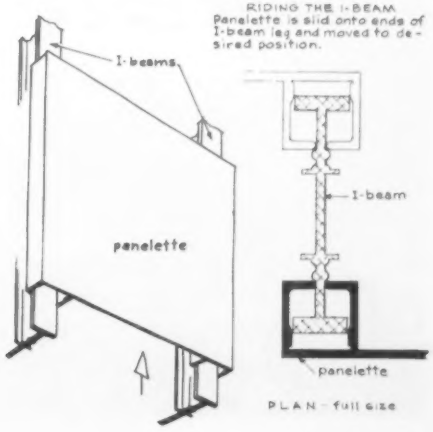
Three simple extrusions form the system—a clip angle, a miniature I-beam, and a "panelette" or miniature aluminum panel. Panelettes are snapped or slid onto the I-beams, which are fastened to the façade of a building on an eight-inch module. The clip angles serve to connect the panelette-I-beam assemblies. Panelettes are locked in place with a pair of pliers. The "Sol-Dec" assembly can be anchored to the structure with aluminum angles, channels, or brackets. Alternate I-beam arrangements, giving various design appearances, are vertical, horizontal, and diagonal. A reduced span is required with the two latter arrangements. A number of variations of screen patterns have been created by designer Gene Myers, using front panelettes, back panelettes, and open spaces between panelettes. The panelettes will be finished in Alcoa's new line of "Alumalure" colors. Price of the system is $2-$4 sq ft, depending on type of panelette ordered.

Aluminum Company of America **100**

EXTRUDED COMPONENTS REQUIRED FOR SCREEN SYSTEM
(STANDARD PRODUCTS)

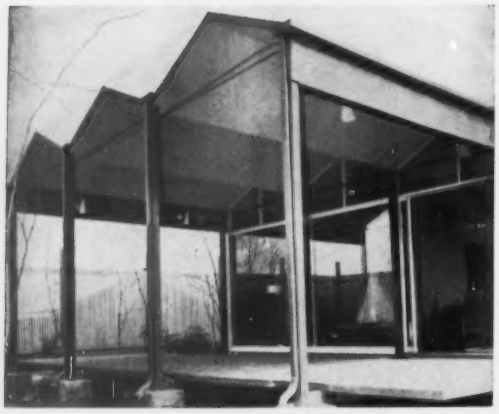


APPLYING PANELETTE TO I-BEAM

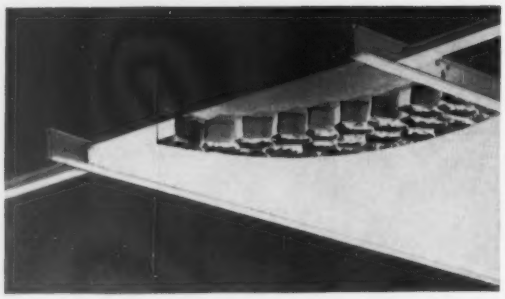


101

102



103



104

105

Synthetic-Rubber Roof Coating Offers Color

Application of "Hypalon" synthetic-rubber roof coating atop two coats of neoprene creates light, non-flammable, resilient, and abrasion-resistant roof surfacing. Neoprene offers best results when compounded with certain materials creating darker colors. "Hypalon" is color stable even with white or pastel shades, hence can offer wide range of colors. Coating of neoprene and "Hypalon" should be 20 mils thick: 15 mils of neoprene, and five mils of "Hypalon." An all-"Hypalon" roof could be thinner. The double coating is suitable for roofs of any pitch, since materials are not thermoplastic and are unaffected by temperatures up to 200 F. Applied by roller coating directly to base roof structure, such as concrete or wood sheeting, directly to insulating board, or as protective film over metal.

E. I. Du Pont de Nemours & Company **101**

Light Control Acts on Thermostat Principle

Light-control system "measures" daylight and balances it with electric light to assure constant level of room illumination. Brain of system is "Lumistat," a dial which presets desired amount of room light. A photoelectric scanner is placed where it can monitor area to measure amount of combined daylight and artificial light in room. Information is relayed to signal station which compares reading to "Lumistat" setting. If readings differ, signals are sent to Luxtrol Automatic Light Controller which adjusts lights to proper level.

Superior Electric Company **102**

Plywood Box Beams Are Easily Erected

Exposed plywood box beams give smart look to low-cost houses, can also be used in schools, churches, small commercial buildings. Beams have been used in spans up to 90 ft, and successful designs have been fabricated in lengths of 120 ft. Units have stronger stress value than standard beams. Beams shown are "CreZon" overlaid plywood. "CreZon," a phenolic resin material, is heat-sealed to plywood to create permanently inseparable surface.

Crown Zellerbach Corporation **103**

Sound Transmission Cut by Lay-In Panels

"Sound-Seal" acoustical lay-in panels were designed to act as barriers against transmission of sound from room to room over ceiling-high, movable wall partitions. Panels are made of steel, laminated with honeycomb cells, and filled with an absorbing element. "Sound-Seal" panels offer structural rigidity in addition to acoustical absorbence.

Acoustics Manufacturing Corporation **104**

Unit Controls Electronic Teaching Aids

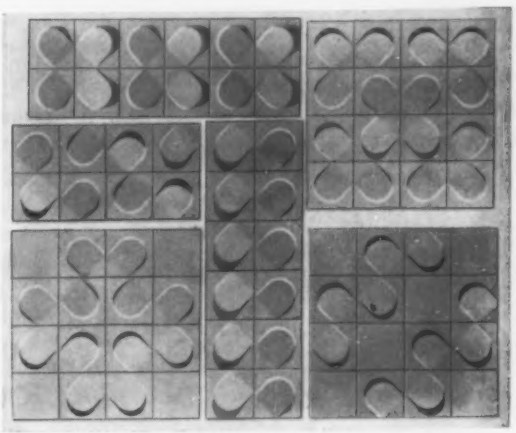
"Electronic Teaching Center" is L-shaped desk 4'x8' overall. Contains TV receiver for closed circuit or direct telecast programs, controls to automatically close draperies and turn off lights for viewing, a tape recorder, a telephone, a self-contained motor unit, and storage space for the teacher's supplies and books. All functions are activated by control switches close at the teacher's hand.

American Seating Company **105**

Versatile Tile Designed by George Nelson

Three-dimensional ceramic tiles allowing the creation of many different bas-relief wall patterns have been introduced. Shown are a number of variations with "Athena" (concave) and "Athena" (convex). Also designed by Nelson is "Laurel Leaf." All three tiles available in wide selection of colors and glazes, on standard 4¼"x4¼" modules, with trim to match.

Pomona Tile Company **106**



106

Sound Absorber Is Lightweight, Portable

"Acoustosorber" is a hollow pyramid of vinyl plastic backed with a glass-fiber blanket. Shipped flat to job site, the unit is shaped along pre-embossed lines into a pyramid. Designed primarily for noisy areas where no acoustical material has been provided, unit can easily be moved from one spot to another as need demands. One unit said to be equivalent to 16 sq ft of ordinary ½" acoustical tile.

United States Gypsum Company **107**

Aluminum Window Features Easy Cleaning

Double-hung aluminum window has two sashes which not only slide up and down but also pivot on their horizontal axes to permit cleaning both sides from inside room. Tilting sash also offers variety of indirect ventilation combinations. Balanced sash is removable without tools. Sash slides easily on rigid vinyl tracks.

United States Window Corporation **108**

108

Fluorescent Lamps Improved by Developments

Under examination by the manufacturer, scientists, architects, and designers are large, thin, rectangular glass plates not more than an inch thick, which produce fluorescent light. Lamps consist of maze of passages sealed in thin glass block. Arc or electric discharge travels this labyrinth through block to produce large-area source of light. Panels emit light from both sides, can also be backed by reflector on one side. Company recently introduced a fluorescent lamp requiring neither starter nor external ballast, which can be mounted in a single conventional screw base. A bi-metallic starting switch as an integral part of this lamp does away with the necessity of an auxiliary starter, and an incandescent filament within the lamp itself obviates need of external ballast.

Westinghouse Electric Corporation **109**

109

Concrete Panels Offer Design Possibilities

Tongue-and-groove precast-concrete panels measuring 2'x11¼' are fitted into columns of slotted, concrete blocks to create solid, interestingly textured wall. System is said to have fewer joints than standard concrete-block walls, superior strength to such walls, and insulating properties equivalent to those of a 10"-block wall. Specially designed, slotted, concrete block into which slab fits can be used in corner columns, center columns, or in interior partitioning columns. Block weighs 70 lb and measures 15⅝" sq by 7⅝" deep. Slots in side, to receive slabs, are 4" sq. Steel forms designed and fabricated by Blaw-Knox Company, Pittsburgh, are used in casting slabs.

Shaffer Block Works **110**

110

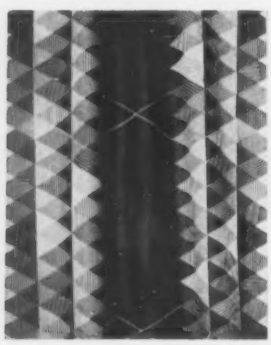
Concrete Blocks Reduce Costs

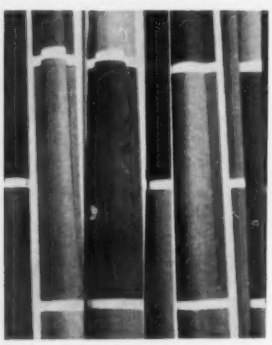
"Thermoflector" insulated concrete blocks reportedly cause savings of up to 45% of block wall building and insulating costs. Blocks have staggered air cells and sealed-in aluminum

foil insulation. Insulators are sealed in as wall is built; a cap is placed over air cells between each row of blocks. Tests at Armour Research Foundation also reveal blocks possess high soundproofing capabilities.
Thermoflector Associates, Inc. **111**

Award-Winning Fabric Introduced

"Criss-Cross" fabric (below left) designed by Ross Littell recently won special award from American Institute of Decorators. It is among new collection of 92 designs and colors assembled and co-ordinated under direction of Suzanne Huguenin. Littell's fabric, one of four he contributed to collection, is available in charcoal on white or tan on white, on Belgian linen.
Knoll Associates, Inc. **112**





Drapery Fabric Features Bold Design

"Giant Rectangles" (above right) is one of four fabric designs done by Alexander Girard. Comes in six color combinations including crimson-orange-pink, blue-green-gray, and brown-black-khaki. Pattern repeat is 72" long and 48" wide. Price: $12 a yard. Collection also includes "Manhattan," smaller-scaled design of tiny squares; "Shower," in a raindroplike pattern; and "Grid," a large-scale, line design.
The Herman Miller Furniture Company **113**

Curved Plastic Skylight Has Formed Ends

Prefab plastic vaulted skylight with formed ends to match curvature of draped Plexiglas center section, features simplified design for easy installation. Incorporates compensating joints for expansion differences between plastic and aluminum retaining frame; waterproof construction without mastic or gasketing; vinyl cushioning of the parts; top connecting frames prepunched to screws that engage threads of connecting frames inside skylight. Available in many widths and lengths.
Rohm & Haas Company **114**

Rivets Offer Versatility of Application

"Pop" rivets are blind fasteners—can be set from one side of structure when there is no access to back. Also used for areas having limited back clearance, and "non-blind" applications. Rivets are inserted by operator and can be set with either manual or powered tools. Retracting jaws of tool pull mandrel into the rivet until mandrel breaks under tension. Since force necessary to break mandrel and set rivets is as

high as 1600 lb, procedure furnishes tight, vibration-proof clinch. Made in five different combinations of mandrel and head types: break stem mandrel, where mandrel head is held in rivet after setting; break head mandrel, where mandrel head falls clear when rivet is set; domed head, giving low head profile and extra clearance; countersunk head, where flush appearance is desired; and new "Imex" Pop rivet, a sealed-end rivet.
Pop Rivet Division
United Shoe Machinery Corporation **115**

Anodized-Aluminum Grating Has Many Uses

Anotek colored-aluminum grating has many uses in exterior and interior installations—as sun deflectors or shades; for decorative purposes in spandrels, column facings, parapets, room-dividers, to mention a few—applicable to various building types. Can be fabricated in anodized clear and sun-fast colors: clear colors are blue, copper pink, green, black, brass, red; sun-fast colors are gold, blue, brass, black.
Klemp Metal Grating Corporation **116**

Sanitized Vinyl Wall Covering Produced

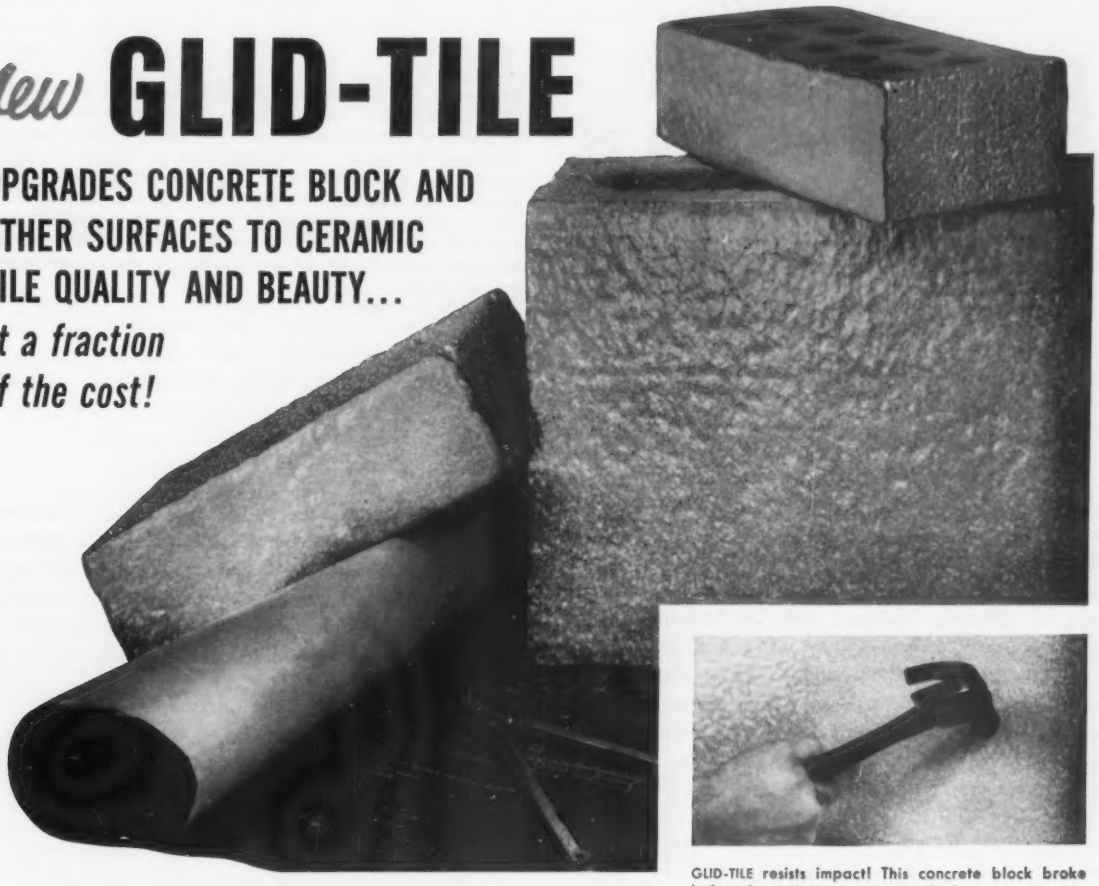
Sanitized Bolta-Wall, manufacturer claims, is protected against bacteria, fungi, mildew, other micro-organisms; is germ, odor, mold-resistant, nontoxic, nonirritating. Available in a wide range of colors and patterns.
The General Tire & Rubber Company **117**

THICK...TOUGH...LIFETIME FINISH FOR WALLS

New GLID-TILE

UPGRADES CONCRETE BLOCK AND OTHER SURFACES TO CERAMIC TILE QUALITY AND BEAUTY...

at a fraction of the cost!



GLID-TILE resists impact! This concrete block broke *before* the GLID-TILE coating cracked.

GLID-TILE resists abrasion! Continuous wire brushing did not scratch or mar GLID-TILE'S tough, durable surface.

New GLID-TILE gives wall surfaces a beautiful, durable tile-like finish at a fraction of the cost of glazed, ceramic or structural tile. This special polyester resin spray finish is almost twenty times as thick as an average coat of paint. It outlasts conventional paint coatings by years!

GLID-TILE may be used over masonry block, concrete, wood, metal, plaster or wallboard. It becomes an integral part of the surface; cures to a continuous, non-porous finish that withstands hard usage, mechanical abuse, impact and abrasion. It resists acids, solvents, alkaline detergents and hot water. Because there are no mortar joints, GLID-TILE is the easiest of all wall coatings to maintain and keep clean . . . a tremendous saving in food processing plants and other operations where sanitation is a must.

GLID-TILE is available in a wide range of colors to meet the most modern color styling requirements—in offices, auditoriums, cafeterias, classrooms, laboratories, washrooms, factory production areas.

Write now for complete details and the name of the firm that applies GLID-TILE coatings in your area.

ATTACH THIS COUPON TO YOUR COMPANY LETTERHEAD AND MAIL TO:

Dept. PA-659, The Glidden Company
900 Union Commerce Building
Cleveland 14, Ohio

Please send me the following information on GLID-TILE:

☐ Free specification folder.
☐ Name of local firm that applies GLID-TILE.

Name_____

Firm_____

Address_____

City_____ State_____

QUALITY Glidden PRODUCTS

PROFESSIONAL FINISHES
The Glidden Company
MAINTENANCE FINISHES DIVISION
900 Union Commerce Building • Cleveland 14, Ohio
In Canada: The Glidden Company, Ltd., Toronto, Ontario

***Revised Code of Standard Practice for Buildings and Bridges** updates reference first issued in 1924, and establishes limits of good practice applicable to single and multistory steel-framed buildings. Revisions include discussion of tolerances permitted in erection; responsibilities of the steel fabricator, erector, and owner, with respect to method of erection; setting of loose lintels; and adequate storage space during erection. Code is result of studies made by engineers and other AISC staff members for reference by all concerned with use of structural steel in construction.*
American Institute of Steel Construction, Inc. (9-p.) **200**

AIR AND TEMPERATURE CONTROL

Diffusers Provide Uniform Air Pattern

Catalog illustrates features of K-series square and rectangular air diffusers. Equipped with Uni-Pattern (uniform air pattern) vanes, diffusers have attractive appearance, are sturdy, will not lose shape—have 20-gage steel frames, 18-gage steel louvres, with inner section louvres mounted on a frame of bar steel. Graphs, drawings, complete engineering, performance, installation data provided.
Carnes Corporation (Catalog 159, AIA 30-J, 56-p.) **201**

Commercial Refrigerators and Freezers

Brochure illustrates and describes complete "P-H" line of quality-constructed, clean-lined commercial refrigerators and freezers—includes wide variety of types and models to meet every need for refrigerated storage of all kinds of perishable food products as handled by restaurants, food stores, bakeries, institutions. Construction details, specifications provided.
Puffer-Hubbard Refrigerator Company (44-p.) **202**

CONSTRUCTION

Guide to Selecting Flooring Products

Manual describes characteristics of flooring products for intelligent selection or specification. Included are approximate cost, wearing qualities, resistance to indentation, and to certain substances to which flooring materials are commonly exposed; also relative underfoot comfort and light reflectivity. Advice concerning correct adhesives, specifications for underfloors, and installation procedure, provided.
The B. F. Goodrich Company (AIA 23-G, 24-p.) **203**

Report on Building Materials and Structures

Selected bibliography on building construction and maintenance reviews building materials, equipment, good construction practices for new construction, modernization, and maintenance of buildings. Contents include instruction for obtaining listed materials, subject listing, State agricultural colleges and experiment stations, issuing agencies, and index. For Report 140 (50-p., 30¢ each) write: U. S. Dept. of Commerce, Washington 6, D. C.

★ New Dimension in Architectural Glass

Bulletin discusses benefits of laminated architectural glass (consisting in its simplest forms of a layer of polyvinyl butyral plastic sandwiched between two sheets of glass, with the three elements bonded permanently under heat and pressure)—explains physical properties, manufacture of the glass; how decorative effects are achieved; how plastic interlayer is tailored to obtain light control, glare reduction, ultraviolet exclusion, and solar-energy control. Installation techniques are shown.
Monsanto Chemical Company
Plastics Division (AIA 26-A-5, 8-p.) **204**

★ Ideas for Uses of Stainless Steel

Presentation contains ideas for uses of stainless steel. Full-color photographs show curtain-wall design and applications on specific buildings. Detail drawings on unusual problems are explained, with many well known architects represented. Section showing compatibility of stainless steel with other materials is included.
Allegheny Ludlum Steel Corporation (50-p.) **205**

Copper Shielding Protects Against Termites

Book illustrates copper termite shield designs and their application to various construction details. Made of 16 oz cold-rolled sheet copper for stiffness, in standard designs dimensioned to conform to standard and stock copper-sheet widths, shields are said to be easy to shape and solder, strong, rustproof, resistant to corrosion, mortar and lime burns. Available in either one or combination of two forms: the Barrier, or Deflector. Metal also has excellent salvage value. Drawings detail applications.
Copper & Brass Research Association (8-p.) **206**

Editor's note: Items starred (★) are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.

Nine Ways to Better Concrete

Bulletin contains concise analysis of the nine vital factors governing production of high quality concrete. Charts, graphs, and photos based on field and laboratory tests show how use of Pozzolith gives concrete increased flexural, bond and compressible strength, effectively entrained air; increased workability and durability; reduced shrinkage and permeability; initial retardation and resistance to scaling.

The Master Builders Company (AIA 3-B-2, 2-p.) **207**

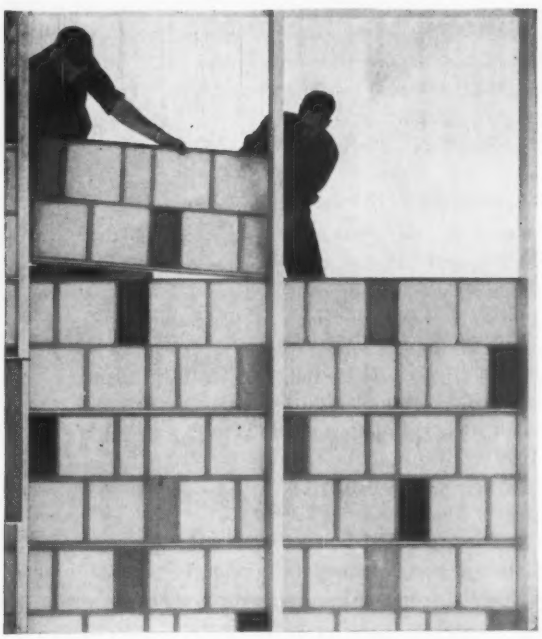
Concrete Masonry Allows Creative Freedom

Brochure illustrates functional and decorative qualities of pierced-wall patterned concrete block. Variety of standard sizes and shapes, textures and physical composition allows broad design flexibility in both interior and exterior applications. As a design tool, block permits integration of varying patterns to achieve decorative highlights without sacrifice of traditional functional qualities. May be used as screens, walls, or partitioning.

Besser Company (AIA 10-C, 8-p.) **208**

★ **Colorful Curtain-Wall System Offers Design Ideas**

File sheets describe new Thinlite curtain-wall system, designed and engineered as a total wall. Addition of rectangular, prismatic glass shapes and ceramic fired-on colors in horizontal, vertical, square shapes bring fresh



look, advantage of daylight control; provide colorful mosaic patterns. Modular 4'x2' and 5'x2' panels are 2" thick, form both inside and outside finished wall, have extruded aluminum, interlocking perimeters, are secured to struts by simple bolt-assembly system. Basic tints are Ricepaper white, sunlight yellow, cool green. Permanent, ceramic, fired-on exterior colors include Chinese red, golden yellow, indigo, bronze, turquoise green, peacock blue, charcoal grey, ebony. Colors may be intermixed.

Kimble Glass Company
Subsidiary of Owens-Illinois (AIA 17-A, 29-p.) **209**

Structural Insulating Roof Deck

Booklet describes roof deck in open-beam design, providing an even smooth surface for built-up roofs. Lightweight, sturdy, vaporproofed, fire- and fungi-resistant—prefinished

interior side has white, textured surface, makes contrast with natural, stained, or painted beams. Beam size tables show permissible minimum nominal dimensions of acceptable beams. Construction details, pictures of existing installations, included.

Insulite Division
Minnesota and Ontario Paper Company (20-p.) **210**

Veneer and Insulated Porcelain-Enamel Panels

Three separate brochures present information on line of sandwich panels. The first two deal respectively with specifications and product details on porcelain enamel on steel veneer panels, insulated porcelain enamel on steel panels; the third shows 28 colors and patterns available in both veneer and insulated panels.

Alliance Wall Division
Alliance Ware, Inc. (AIA 17-A, 4-p.) **211**

Polymer-Based Adhesives for Concrete Construction

Technical bulletin details results of laboratory and field tests using Thiokol liquid polymer/epoxy resin concrete adhesives. Tests included tensile, flexural and shear strength, in addition to effects of freeze-thaw cycling and water immersion. Methods of application are described for a number of typical uses in building construction and maintenance.

Thiokol Chemical Corporation (8-p.) **212**

Uses of Stone from Antiquity to Present

Brochure reviews uses of stone from primitive time through the Egyptian, Grecian, Roman, Byzantine, Medieval, Renaissance periods, the present time, closing with a large 22"x32" panorama of the City of the Future—depicts every type of quarried stone in natural colors—suggests uses of stone and stone patterns for all types of construction.

Building Stone Institute (16-p.) **213**

Decorative Tile and Brick Applications

Catalog shows entire line of structural-clay products: ceramic-glaze Vitritile in 22 standard colors—ceramic-

(Continued on page 94)

glaze Velour-textured facing brick in 11 colors—Natco face brick in three sizes, range of colors and textures. Among additional new and redesigned products presented is a splayed-base unit designed to prevent surface contact and damage from movable equipment. Perspective and line drawings, full-color photographs of products, and products in use, included.
Natco Corporation (Catalog S-59, AIA 10-A-B, 24-p. **214**

Fir Plywood for Today's Construction
General information booklet "Fir Plywood for Today's Construction" contains data on physical properties of fir plywood; chart of characteristics and proper use of each grade of interior and exterior-type panel; table of basic requirements for plywood construction; gluing and nailing recommendations. Design and use data for various concrete forms is included.
Douglas Fir Plywood Association (AIA 19-F, 12-p.) **215**

All-In-One Window and Panel Wall System
Brochure explains one- or two-story all-in-one window-and-panel wall system that permits co-ordination with almost any building module in range of building types (school, clinic, medical, one- or two-story commercial)—durable, weathertight, expandable (corner panel can be removed to allow additions). Aluminum-faced and backed panels have clean vertical lines, available in three standard exterior finishes—other finishes, and 22 baked-on standard panel facing colors. Furnished with 3 stock window sizes. Detail drawings, suggested specifications, included.
Reynolds Metals Company (AIA 17-A, 8-p.) **216**

★ **Aluminum in School Construction**
Booklet shows many advanced uses of aluminum in classrooms and school construction. Discussed are new design concepts, application of aluminum walls and partitions, sheet metal work, doors and windows, ceilings and lighting, piping, storage units, teaching aids, and educational equipment. An extensive list of present and potential aluminum products is included. Eighty-eight photograhps and drawings.
Kaiser Aluminum & Chemical Sales (60-p.) **217**

Effects of Calcium Chloride on Portland Cement
Booklet presents results of laboratory and field tests conducted with calcium chloride in portland cement, concrete, and mortars. Sections contain tables, graphs, and charts drawn from various reports; bibliography along with abstracts giving details; and brief answers to 24 questions most commonly asked about use of calcium chloride with portland cement. Tests were reported by recognized authorities, including National Bureau of Standards, Highway Research Board, American Road Building Association, Portland Cement Association, Ohio State Univ., and highway departments of various states, counties, and municipalities.
Allied Chemical, Solvay Process Division (38-p.) **218**

Wrought-Iron Building Drainage Systems
Booklet in nine sections reviews advantages of 4-D wrought-iron piping in soil, waste, vent, and downspout applications—furnishes results of building piping surveys, photographic examples of vent corrosion—sections include descriptions of corrosive conditions encountered in drainage services; comparative service records; typical installation and performance tables; piping economy; cost comparisons between low maintenance and low-initial cost materials. Specifying and reference data included.
A. M. Byers Company (AIA 29-B-2, 64-p.) **219**

Building Products and Services
Technical manual is divided into six separate catalog sections detailing engineering data and specifications for each of the following commercial building elements: metal curtain walls, metalclad fire walls, rolling steel doors, electrified M-floors, long span M-decks, steel roof decks, acoustical and troffer forms, acoustical ceilings, structural steel, steel plate components. Diagrammatic drawings and photographs accompany text; section with construction details for drafting room use is included.
The R. C. Mahon Company (100-p.) **220**

Design Versatility of Laminated Wood
Manual demonstrates design versatility of glued-laminated wood members—provides detailed drawings defining a wealth of possible uses in every type of structural form—also photographs of existing buildings including auditoriums and churches employing tepee, crossvault, oval, V type forms, and unusual shapes to fit special ground contour conditions—and a free-spanning rigid-frame construction featuring contraflexual located field splices for maximum clearances, optimum economy. Complete specifications, application data, information on types, fabrication, protection, relative strengths and bending properties, color selection chart, included.
Unit Structures, Inc. (AIA 19B-3, 28-p.) **221**

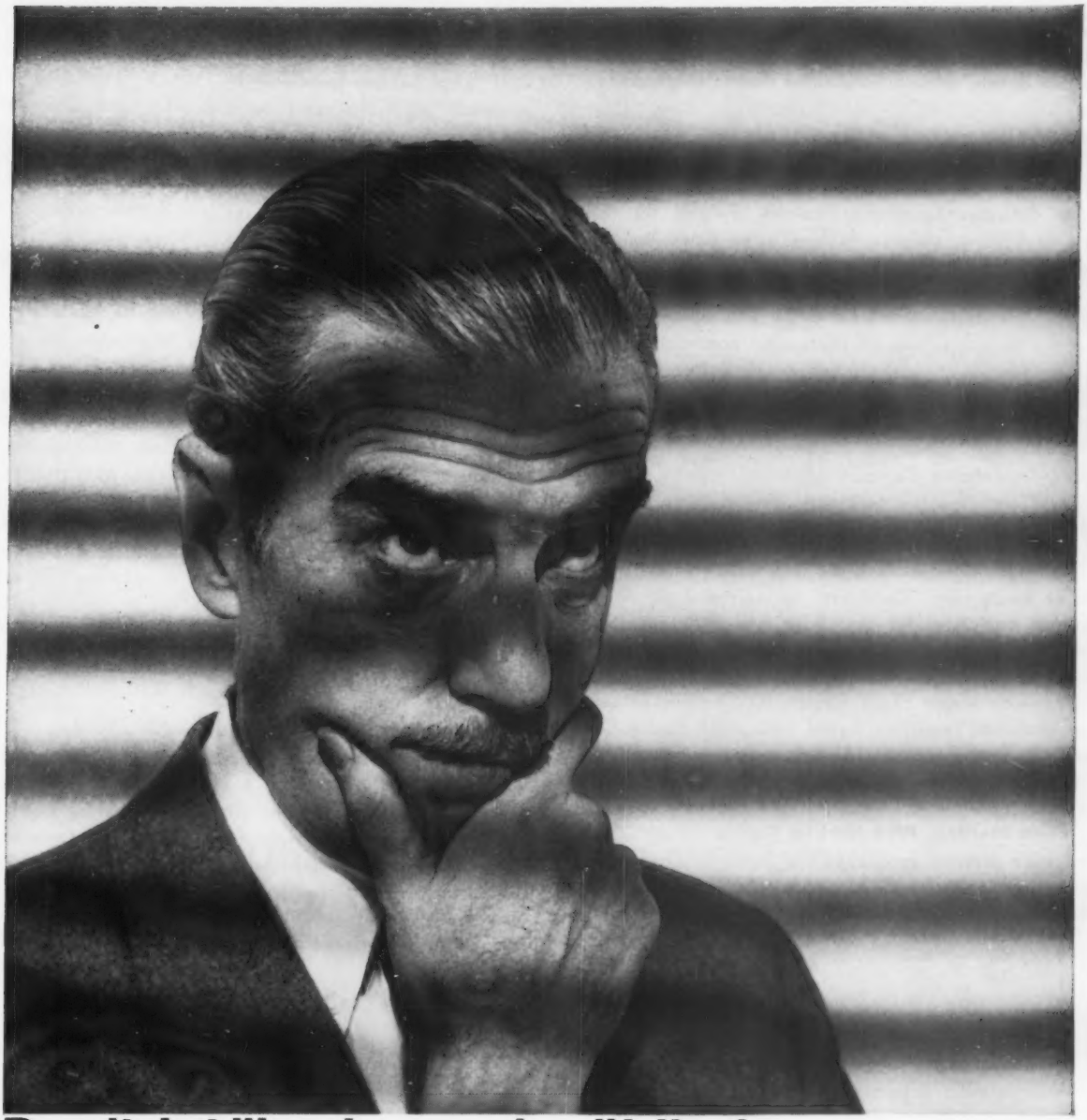
Adaptable, Handsplit Roof Shakes
Manual illustrates history of red cedar handsplit shakes—contemporary design applications—discusses properties of durability, insulating value, lightness of weight, strength, appearance. Photographs and sketches show proper application techniques, uses for shakes in modern residential, church, school, commercial building. Also shown are manufacturing and grading processes.
Red Cedar Shingle Bureau (AIA 19-D-1, 32-p.) **222**

DOORS AND WINDOWS

Windows Fill Every Requirement
Catalogs contain complete product information on lines of residential, commercial, institutional aluminum windows and curtain-wall systems—includes feature descriptions, sizes, specifications, cross-section details, mullions, accessories. Catalogs (three of them) also provide installation data, and photographs of existing installations.
Ware Laboratories, Inc (AIA 16-E; 24-,32-,7-p. respectively) **223**

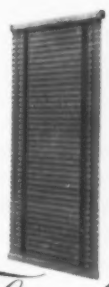
Wood-Constructed Windows Offer Warmth, Utility
Brochure advances argument in favor of utilizing wood in windowalls, especially in school building—stresses warmth and beauty, insulating properties, other desirable features

(Continued on page 96)



Don't let "hodgepodge" blinds cast a shadow on any job of yours!

Because all venetian blinds are assembled locally, there's always the risk of getting blinds that are assembled from a *hodgepodge* of components. This can cause operating malfunctions, light leaks, and service maintenance problems. That's why it's important to specify "Flexalum Twi-Nighter venetian blinds." This is the blind that assures tighter closure (a must for direct sun exposures), longer life and less care. The Flexalum Twi-Nighter is the only blind where *every component, including raw materials, is made by one manufacturer.* And it is assembled locally *only* by licensed Flexalum Manufacturers under strict Hunter Douglas quality control. Protect yourself *and* your clients.



SPECIAL FLEXALUM TWI-NIGHTERS USED THROUGHOUT THE SEAGRAM BUILDING. To achieve a uniform appearance from the exterior, two custom devices were engineered: 1) a 3-position stop on the lift mechanism; and 2) a control to limit the tilt-angle.

Flexalum TWI-NIGHTER® VENETIAN BLINDS

Hunter Douglas Aluminum Division of Bridgeport Brass Company, 405 Lexington Ave., N.Y. 17.

of wood. Windows described come in wide range of types and sizes, provide notable design freedom. Complete construction details, existing installations shown, with specifications.
Andersen Corporation (Catalog 591, AIA 16L, 43-p.) **224**

Weathertight, Maintenance-Free Skylighting
Folder describes Solardome Plexiglas skylights for nonglare daylighting, claiming to have three times insulating value of glass, and to eliminate toplighting hazards such as breakage, leakage, expensive roof construction and maintenance. Designed to a 16" or 24" module, applications are practically limitless. Of lightweight construction, they incorporate special condensation runoff gutter to assure drainage to the outside. Available in standard crowned, paterned, plain types. Can be ordered custom-designed. Detail drawings, sizes, specifications, included.
Klise Manufacturing Company (AIA 26-D-91, 2-p.) **225**

ELECTRICAL EQUIPMENT, LIGHTING

Corrosion-Resistant Electrical Condulets
Booklet treats with "Condulets" for corrosive locations—electrical equipment for use under many different conditions causing corrosion. Corrosion-resistant properties of a variety of metals and finishes used in Condulets are described, with simple charts showing applications of each. Also contained are first formal listings of Plast-A-Coat Condulets for hazardous and nonhazardous locations.
Crouse-Hinds Company (Bulletin 2699, 16-p.) **226**

Snow Melting, Pipe Heating Cables
Publication presents application and installation information on heating cables for de-icing sidewalks, driveways, roofs, other areas, and heating of liquid and semiliquid supply

pipes. Described are lead-jacketed asbestos heating cable, designed to dissipate heat at rate of seven w per ft when used in proper lengths at correct voltages; lead-sheathed Flamenol jacketed cable, of rugged construction, designed specifically for snow melting, rated at 10 w per ft; silicone-rubber cable, rated 10 w per ft in practically any installation.
General Electric Company (9-p.) **227**

Quiet, Efficient Operation of Fluorescent Lamps
Bulletin deals with extensive line of "quiet-rated" fluorescent lamp ballasts—precision built, power regulating instruments supplying exact amounts of electrical energy for efficient operation of all fluorescent lamps. Complete discussion of component parts, purposes, testing, noise levels, etc., is presented, also sound-rating chart for every type of installation, including residential, commercial, and institutional.
Advance Transformer Company (14-p.) **228**

Audio-Visual Hospital Communication System
Technical file presents comprehensive information concerning hospital communications systems. Provided are complete design and engineering specifications on an integrated audio-visual nurse call television/radio/system. System utilizes special "pillow speaker" for sound, and control of nurse call, TV, and radio. Pillow speaker remains at patient's pillow, does not disturb other patients; allows patient complete control over station changes, volume. File also contains information regarding antenna systems for all building types, paging and music systems, and closed-circuit TV and radio systems.
Dahlberg, Inc. (75-p.) **229**

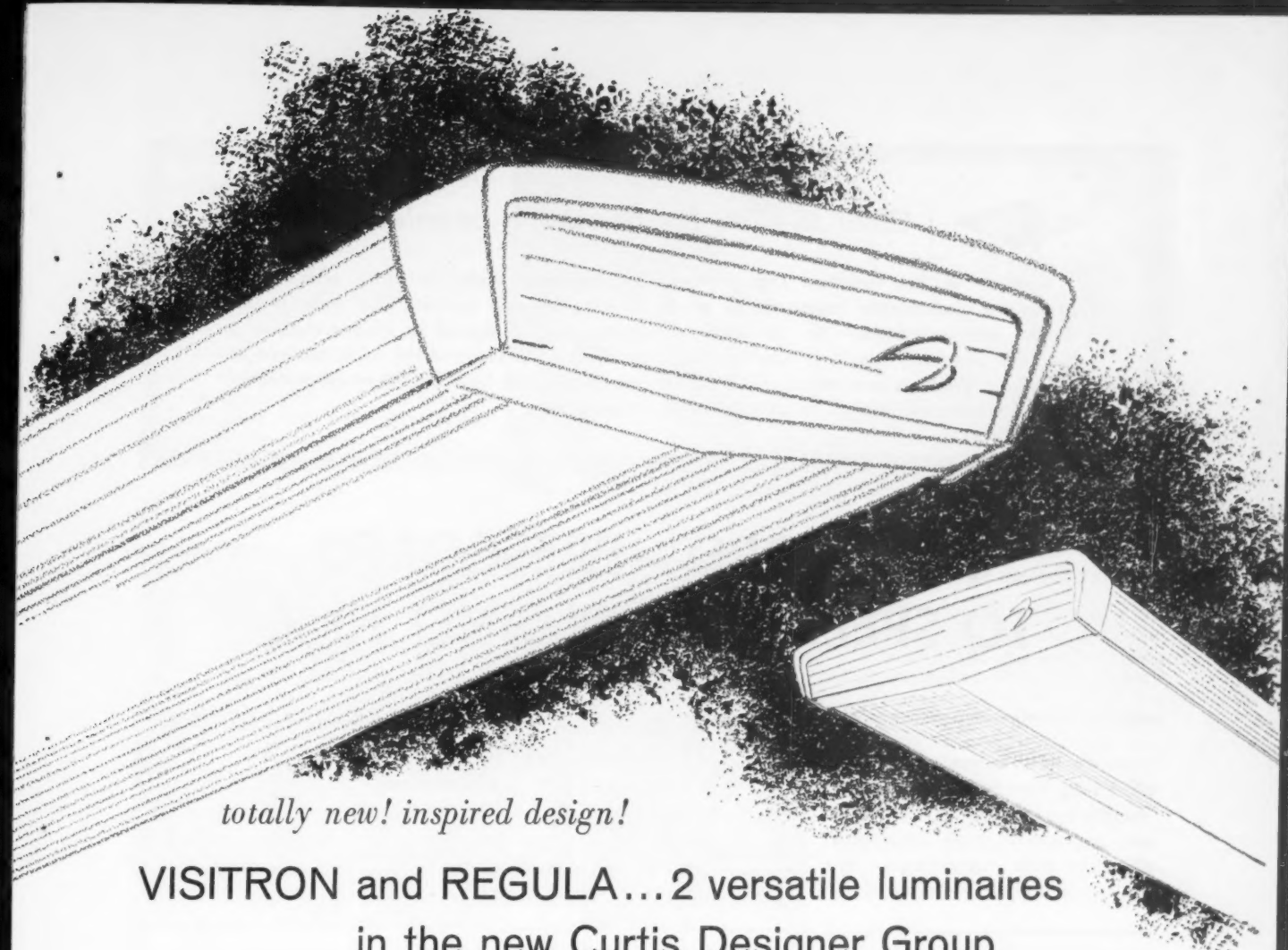
FINISHERS AND PROTECTORS

Protective Services for Buildings
Reference manual presents first published specification data on new 25-year bond for flat and low-incline pitch and felt roofs. Among specifications given are those for built-up roofs, roof insulation, roof-drainage systems, waterproofing, dampproofing. Section containing general information explains company's services to building owners.
Barrett Division
Allied Chemical Corporation (AIA 12-B, 68-p.) **230**

★ **Specifications Guide to Finishing Products**
Hardback manual provides complete specifications guide for proper use of finishing products, indexed for almost instantaneous reference. Additional assistance is offered through company consultation service which includes counseling on any aspect of color planning, painting, varnishing, enameling, unusual or problem surfaces requiring special treatment.
Pratt & Lambert, Inc. (9th edition, AIA 25-C, 260-p.) **231**

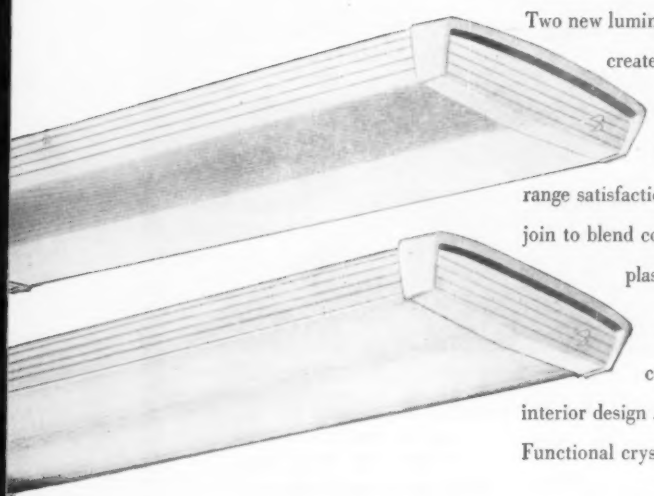
Application of Coatings and Sealers
Catalog describes and illustrates typical applications and general characteristics of adhesives, coatings and sealers for use in weatherstripping, vibration dampening, insulation, etc. Items covered are reclaimed and synthetic rubber base adhesives; oil-resistant elastomeric adhesives with or without synthetic resin bases; high strength structural adhesives which include epoxy resin adhesives, and adhesives made from combinations of synthetic elastomers and resins. Protective industrial coatings based on reclaimed rubber, natural resins, oils or synthetic resins; sealers in liquid forms, semi-liquids and solids, are also covered.
Minnesota Mining and Manufacturing Company (12-p.) **232**

(Continued on page 100)



totally new! inspired design!

VISITRON and REGULA...2 versatile luminaires in the new Curtis Designer Group



Comes now a truly forward concept in lighting fixture styling. Two new luminaires by Curtis, first in a *Designer Group*, created in the contemporary mood.

THE VISITRON . . . brimming in trim, slim-line beauty with the future "designed in" to offer long range satisfaction. Here imagination and entrancing realism join to blend contemporary design with the traditional in illumination. White plastic diffusers provide a luminescence extremely pleasing to the eye.

THE REGULA . . . ushering in an advanced trend that will be here for years to come. Smooth flowing contours dwell in harmony with today's contemporary interior design . . . blend with the specially chosen furnishings of any decor. Functional crystal plastic prismatic refractors create a sparkling lighting effect.

Curtis-AllBrite Lighting, Inc.,
Curtis Lighting Division, 6135 W. 65th St., Chicago 38, Ill.
AllBrite Lighting Division, 352 Shaw Rd., So. San Francisco, Cal.
Visioneers in Planned Lighting.

CURTIS

DESIGNER GROUP

For more information, turn to Reader Service card, circle No. 308

DOW | **CHEMICAL NEWS *for designing people***

Products of the chemical industry are becoming increasingly important to good design and construction in the building field. To architects, no less than to builders, these products are essentially tools of design whose use makes construction and maintenance easier or more economical, or provides new benefits. This report is one of a series designed to give architects a quick look at some of the most modern of materials, and how they fit modern design needs.

SCORBORD®—PRESCORED TO SPEED UP BUILDING TIME

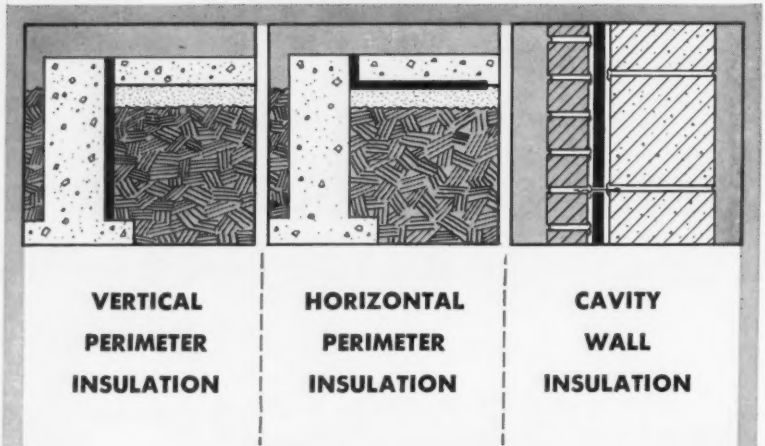
Here's how to cut up to 80% off fitting time when insulating foundations and slabs . . . and get permanent high insulating efficiency with unyielding resistance to water and moisture.

You do it with SCORBORD†—Dow's rigid foam insulation board that makes fitting quick and easy because the big 2 foot x 8 foot boards are prescored to commonly-used widths. Just snap off the width of board wanted. Sawing and cutting are reduced to a bare minimum and construction proceeds as fast as the pieces can be fitted into place.

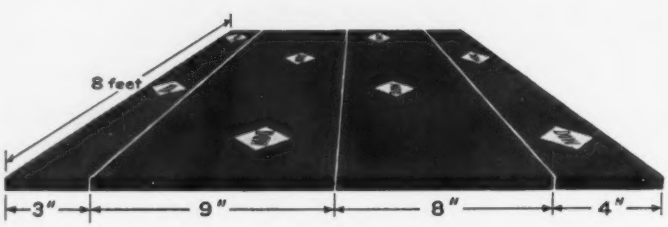
Scorbord is especially designed for use along the edges of concrete slabs and foundations, as well as in cavity walls. It is a polystyrene foam containing millions of tiny non-interconnecting air cells. The cell walls provide permanent high resistance to the passage of water and moisture vapor, and have no food value to attract insects or vermin. This new construction material has unusually high compressive strength (over 2000 lbs. per sq. ft.), and weighs only 3¼ pounds per 8-foot board—less than any other commonly used rigid insulating material.

ARCHITECTS — For more information about Scorbord or for copies of a Sweet's catalog insert, write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Department 1603EB6.

†PATENT APPLIED FOR



VERTICAL PERIMETER INSULATION | **HORIZONTAL PERIMETER INSULATION** | **CAVITY WALL INSULATION**



Thickness	1 inch
Width	24 inches
Length	8 feet
Density	2.5 lbs./cu. ft. average
Compressive Strength	2,000 lbs./sq. ft. minimum

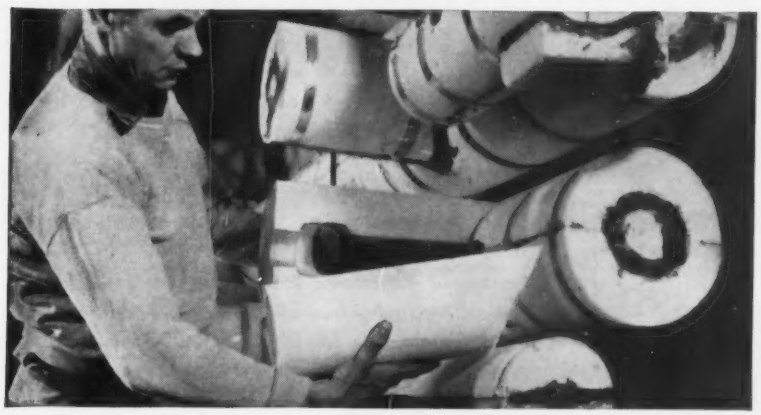
Thermal Conductivity ("K" factor) Less than 0.28 at a mean temp. of 40°F.

Water Resistance Properties
Capillarity—none
Water absorption—less than 0.1 lbs./sq. ft.
(Water pickup on surface of samples tested under a 10' head of water for 48 hours.)

SCORE MARKS *are positioned to provide boards of 3, 4, 8, 9, 12, 17, 20, 21, or 24 inches in width.*

Insulated masonry . . . lower heating costs with Styrofoam®

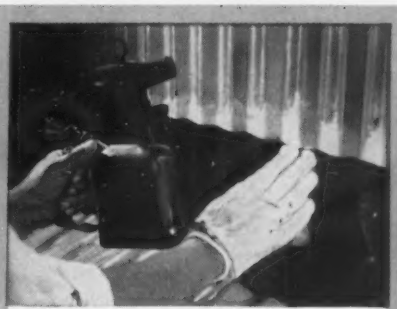
Construction costs go down, insulating efficiency goes up, when you specify Styrofoam for insulation-plaster base construction for masonry structures. Lightweight, easily cut Styrofoam is simply bonded to the masonry wall with a layer of portland cement. Plaster is then applied directly over the Styrofoam. Result? . . . a sound, fully-insulated wall with permanent high insulating efficiency that reduces heating and air-conditioning costs.



Better for pipe covering, too!

Pipe covering made of Styrofoam reduces heat transfer and eliminates condensation and dripping because of high permanent insulating efficiency. It's easily installed, stays trim and attractive without maintenance, and resists rot and mildew. On low temperature piping, Styrofoam won't crack or split under extreme cold, or where temperatures change rapidly. There's a complete line of pipe and vessel covering available for every use, made from versatile, high efficiency Styrofoam.

ROOFMATE *better built-up roofs*—Specially designed for built-up roofs, this new roof insulation board has high compressive strength, permanent insulating efficiency, long life. It can be easily installed, easily mop-coated with asphalt or other standard coating materials.



SARALOY 400 *flexible flashing*—This new flexible flashing material is easy to cut and fit, easy to contour to any shape under low heat. It expands and contracts with the surface to which it's bonded, seals permanently and completely. It won't corrode, check, crack or peel. Can be painted with regular exterior paints.

LATEX PAINT *ideal mate for plaster*—Latex paint is used over even fresh plaster because it resists alkali, mildew and mold. Latex paint's first coat serves as both primer and sealer—no separate prime coat needed. Dow supplies latex to the nation's leading paint manufacturers.

WANT MORE INFORMATION?

Dow Building Products can help to cut costs and do a better job in buildings you design. For more information, write to us today. Plastics Sales Department 1603EB6.

when you design

SPECIFY DOW BUILDING PRODUCTS

STYROFOAM* • SCORBORD*(PAT. APPLIED FOR) • POLYFILM*
ROOFMATE* • SARALOY* 400 • LATEX
*TRADEMARK

THE DOW CHEMICAL COMPANY, Midland, Michigan

DOW

For more information, turn to Reader Service card, circle No. 310

NEW Factual Brochure
for Men who Specify
WINDOW WALLS

For the architect, engineer and building contractor seeking a fresh, new approach in the use of window wall units . . . *Glidorama* now has a new brochure introducing the practical versatility and beauty of Glidorama Custom Aluminum Window Wall Systems. *Send coupon today for your copy.*

GLIDORAMA DIVISION
WHIZZER INDUSTRIES INC., 353 S. Sanford, Pontiac, Michigan.
Send Window Wall bulletin GL-10.
NAME_____
COMPANY_____
ADDRESS_____
CITY_____ ZONE____ STATE_____

Glidorama
Nationally famous producers of Horizontal Gliding Prime Aluminum Windows and Window Wall Systems for Commercial, Institutional and Residential Construction

Just Published

PARKING
By Geoffrey Baker and Bruno Funaro

Here are photos and plans of parking lots, ramp garages, parking decks, underground garages and elevator garages. Examples are drawn from large cities and small towns. There are suggested zoning requirements for parking and freight dock space. To simplify the layout of parking space there is a special ten page section of easy-to-use diagrams and tables. These show parking patterns and stall sizes for most advantageous use of a given site under various parking conditions. *200 pages, 8½x 10½, 225 illustrations.* *$9.50*

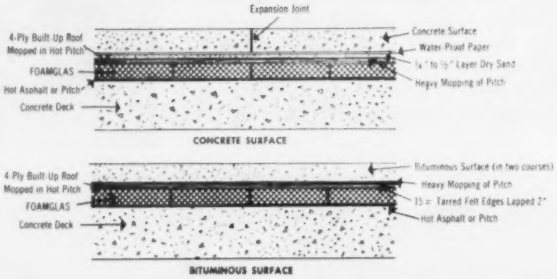
DEPT. 5356
REINHOLD PUBLISHING CORPORATION
430 Park Avenue, New York 22, N. Y.

p/a manufacturers' data

INSULATION

Constant Insulation Value

Catalog illustrates uses of Foamglas insulation, a cellular glass insulation for roofs, parking decks (shown), core walls,



perimeters and ceilings. Provided are drawings and specifications for typical applications, plus technical data, including charts for computing required (U) value.
Pittsburgh Corning Corporation (AIA 37B, 20-p.) **233**

SANITATION, PLUMBING, WATER SUPPLY

Packaged Automatic Hot Water Boiler

Publication describes Powermaster hot-water heating boiler especially designed for forced circulation hot-water systems in institutional, commercial and industrial space heating. Internal boiler water circulation arrangement permits boiler to withstand three times its rated capacity in terms of thermal shock—both rate of change of internal temperature and high temperature differentials across the boiler have been considered in the design. Curves, tables, charts, and photographs.
Orr & Sembower, Inc. (Bulletin 1251, 8-p.) **234**

SPECIALIZED EQUIPMENT

Fire Detection and Protection

Brochure explains installation and operation of fire-detection and protection systems: fully automatic Kidde smoke-detection system having wide range of designs for single, multiroom, warehouse, generator, duct, other hazard spots. Automatic Kidde Atmo fire-detecting system utilizing "rate-of-temperature" principle, can be tailored to fit entire range of buildings; detector tubing can be installed without interfering with operations or marring interior decoration. Built-in carbon dioxide system, harmless to materials in process, foods, fabrics, which sounds alarm, extinguishes flames within seconds; may be automatic, manual, or both. Cutaway drawings show conduit installation methods for all systems. Also described is easy-to-install packaged systems in varying sizes, for automatic or manual operation.
Walter Kidde & Company, Inc. (12-p.) **235**

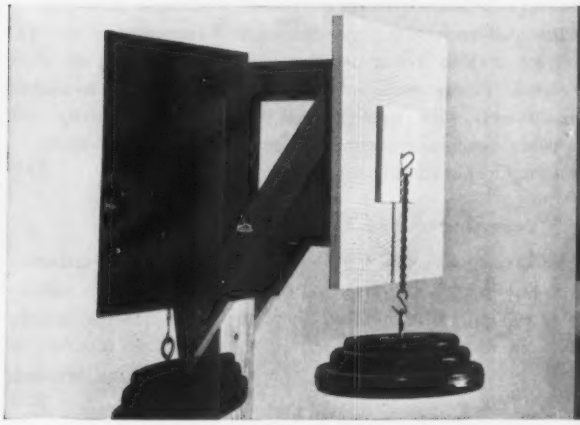
Kitchen Travelog Floor Plans

Booklet presents 20 floor plans to suggest effective utilization of space in arrangement of kitchen furniture and equipment, in a variety of design layouts—decor types used in-

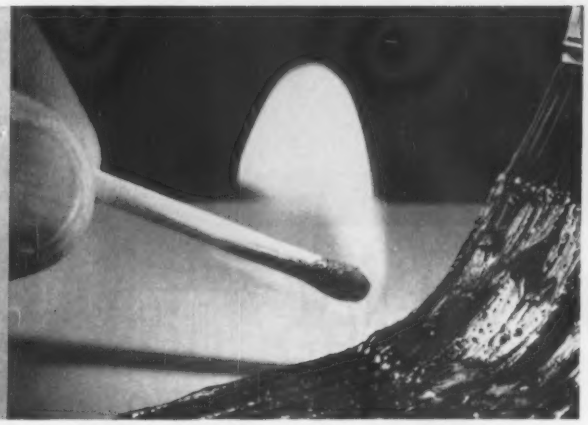
(Continued on page 102)

Look to 3M as your single source!

3M BUILDING ADHESIVES PROVIDE BETTER CONSTRUCTION AT LOWER COST



EXCEPTIONAL STRENGTH. CTA-50 is one of the highest strength water-dispersed ceramic tile adhesives on the market! Dry bonds hold over 1½ tons per tile. It handles easily, trowels like shaving cream. Nontoxic CTA-50 dries quickly to let you grout on the same day.



NONFLAMMABILITY. Solvent-free Adhesive EC-321 won't burn during application, even near an open flame. You can apply insulation anywhere without fear of fire. EC-321 supplies a durable bond that resists high heat, moisture and vibration. Bonds through thin oil films.

QUICK SETTING. 3M Cove Base Adhesive holds base firmly in place immediately after application without shoring. Bond can be completed up to 15 minutes after applying the adhesive. One gallon covers about 300 lineal feet of 4-inch material. Ideal for rubber, vinyl, asphalt.

QUICK GRIP. ROLTITE® brand contact cement bonds decorative laminates to walls at a touch. No nails or clips needed. No nail holes to fill. Simply coat both surfaces, let dry and hand roll laminate into position. Highly water resistant, it prevents warping or peeling.

SEE WHAT 3M ADHESIVES CAN DO FOR YOU! 3M offers a complete line of adhesive products to the construction industry. Contact your 3M Field Engineer. Or, for more information and free literature on any 3M job-proved building adhesives and sealers, write on your company letterhead to A.C.& S. Division, 3M, Dept. YD 69, 900 Bush Ave., St. Paul 6, Minn.

ADHESIVES, COATINGS AND SEALERS DIVISION

MINNESOTA MINING AND MANUFACTURING COMPANY

. . . WHERE RESEARCH IS THE KEY TO TOMORROW

3M COMPANY

THE ALL-NEW

P&S

ROCKER-GLO

SWITCH

. . . the switch that looks right, feels right and is right for every type of wiring job.

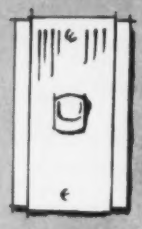
Here at last! After intensive testing, Pass & Seymour, Inc., proudly presents *ROCKER-GLO* . . . the *one* switch that answers all your needs.

No matter how you choose to operate the new *ROCKER-GLO*, the merest brush of a finger produces instant action . . . *and ROCKER-GLO glows in the dark!*

AVAILABLE in Despard interchangeable type. Despard type mounted on strap and narrow rocker for tumbler switch plates. A specification grade switch, 15 and 20 amps. 120/277 volts A.C.

Send for brochure on Rocker-Glo

Dept. PA-659



PUSH IT

ROCK IT

ROLL IT

PRESS IT

P&S

PASS & SEYMOUR, INC.
SYRACUSE 9, NEW YORK
60 E. 42nd St., New York 17, N.Y. 1440 N. Pulaski Rd., Chicago 51, Ill.
In Canada: Renfrew Electric Limited, Renfrew, Ontario

MAKE THE COMPLETE JOB *COMPLETELY* P&S

For more information, turn to Reader Service card, circle No. 312

p/a manufacturers' data

clude city apartment, ranch, Victorian, oriental modern, Dutch colonial, bungalow, among others.
Mutschler Brothers Company (40-p.) **236**

Public Address and Music Sound Systems

Folder aids in primary planning for automatic maintenance-free sound-system installation—for paging, signalling, public address, balanced dissemination of functional background music. Of uniform high recording and reproducing quality, system creates live impression without depending on high volume. Power requirement chart, partial list of available equipment, with specifications, included. Company will provide specific recommendations for all building types.
Muzak Corporation (2-p.) **237**

Cross-Index Key System for Efficiency

Manual explains operation of Telkee Key control system—systematic organization of all keys for quick location, numerical refiling; cross-indexed and controlled. Series include cabinet and tray types of various sizes, for fixed location, or movable equipment. Specifications and dimensions included.
P. O. Moore, Inc. (AIA 35-N-23, 4-p.) **238**

Railing System Permits Design Freedom

Booklet presents Carlstadt railings. Designed around an adjustable pitch handrail bracket of rugged construction, railings have completely simple appearance—are available with variety of styled components for freedom of design (materials are aluminum, bronze, stainless steel, and plastic). Also included is a section on Colorail plastic handrail molding (in four colors), with installation instructions—and sections listing stock sizes of nonferrous bars, shapes, tubing and pipe used to fabricate railings; details of handrail fittings used both in ornamental and in pipe railings. Drawings and complete specifications provided.
Julius Blum & Company (Bulletin 911, AIA 14-D-4, 24-p.) **239**

SURFACING MATERIALS

Church Ornamentation in Ceramic Veneer

Bulletin illustrates many applications of ceramic veneer for church ornamentation, including colonnades, rose windows, niches, crosses, statuary, intricate trim around doors and windows. Each veneer unit is custom-made to precise specifications assuring faithful reproduction of architect's designs. Besides versatility of form, color, and texture, veneer provides advantages of quality, permanence, minimum maintenance. Original condition is retained by simple soap-and-water washings.
Federal Seaboard Terra Cotta Corporation (4-p.) **240**

Stucco Specifications and Standards

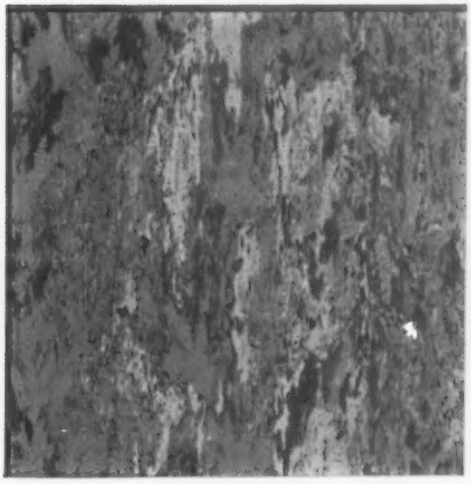
Folder discusses properties, preparation and application of colored stucco wall and ceiling finishes, for entire range of construction. Color integrated into basic mix eliminates need for paint, assures lasting finish, no waste of material, low maintenance—with no oxidization, or fading as time passes.
Stucco Manufacturers Association, Inc. (AIA 21-D, 8-p.) **241**

WOODGRAIN® ASPHALT TILE

another exclusive style in

KENTILE® FLOORS

For use where you want the warm look of natural wood, but are prohibited by budget limitations or installation or maintenance problems. For color selection, call your Kentile Representative for samples, or consult Sweet's File.



SPECIFICATIONS—
Size: 9″ x 9″;
Thickness: 1/8″; Colors: Maple and Cherry, each packed in random shades.

© 1959, Kentile, Inc., Brooklyn 15, N. Y.

MODERNFOLD DOORS TRANSFORM OPEN SPACE INTO PRIVATE SPACE

one room into two... quickly, quietly, dramatically!

VERSATILE MODERNFOLD DOORS... make *one room* do the work of *two*. Wherever privacy is needed, wherever *more usable* space is needed... consider Modernfold doors. In business and medical offices, in commercial shops and restaurants, in funeral homes, churches and schools, Modernfold doors answer many space needs.

FAMOUS FABRIC LINE... new patterns and weaves, all washable, paintable, durable. With Modernfold's exclusive double-strength, all-steel inner framework for perfect balance, lifetime service!

DIMENSIONAL STABILITY... vital to the life and appearance of folding-door fabrics. Modernfold achieves this stability with an exclusive back-coating process.

SIZE AND COLOR RANGE... Specify Modernfold for the greatest selection. In standard sizes, a wide choice of warm, neutral colors to blend, match or contrast with any color theme. In custom sizes, an almost unlimited size range and choice of pure, vivid color or decorator pattern, either modern or traditional.

NEW WOOD GRAIN LINE... for traditional or modern settings. In richly handsome hardwood finishes. They're quiet and easy-gliding.

Your Modernfold distributor is listed under "Doors" in the Yellow Pages.

NEW CASTLE PRODUCTS, INC., Dept. 2, New Castle, Indiana · Manufacturers of "Modernfold" Folding Doors, "Air Doors," "Modern-cote" Wall Coverings and "Peabody" School Furniture. In Canada: New Castle Products Canada, Ltd., St. Lambert, Que.

modernfold
DOORS
®
the first and finest in folding doors

For more information, turn to Reader Service card, circle No. 314

Looking Forward to July
PROGRESSIVE ARCHITECTURE

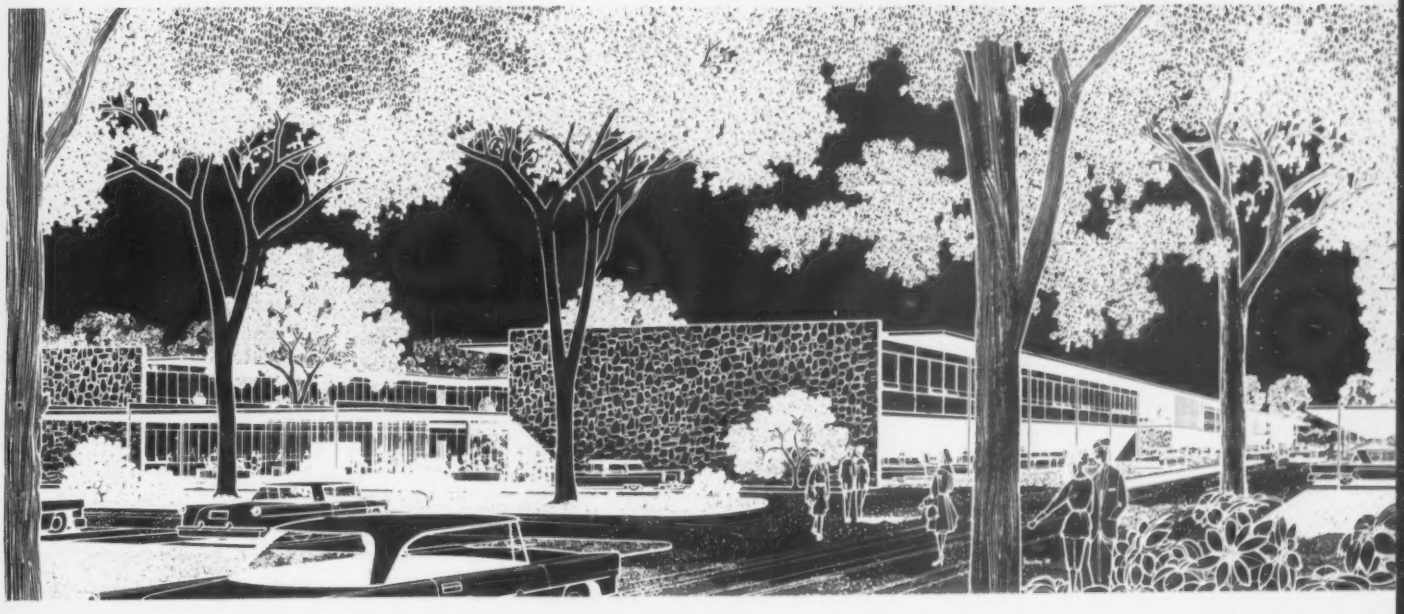
THE EMERGING URBAN PATTERN

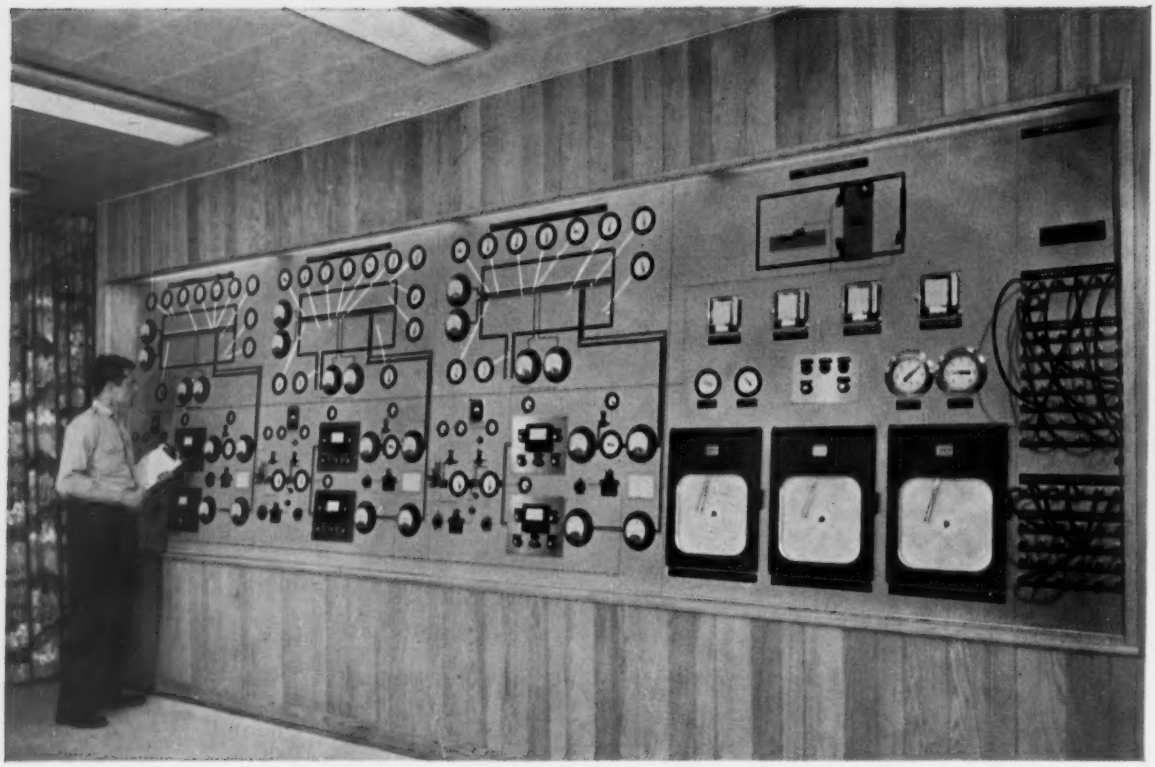
"Instead of developing a comprehensive [urban redevelopment] program, are we in danger of creating a patchwork, a conglomeration of temporary and short-sighted solutions to pieces of a problem which cannot be handled piecemeal? . . . What do we want our downtown centers to become? What, in the long run, are the proper uses of the land in the 'gray belt'? What kind of transportation system will best meet our needs? How do we want to use the remaining open spaces around our cities—for parks, for wild life reservations, for industries, or for the next wave of developments?"

These vital questions asked by Adlai E. Stevenson at the recent national conference of ACTION pinpoint problems in the development of our cities which should concern all practitioners. In July, the vast subject of our "emerging urban pattern" will be thoroughly examined in an issue of P/A completely devoted to all aspects of the growth and redevelopment of our cities.

Assisting P/A's Editors in developing this theme will be Architect and City Planner Victor Gruen (*right*), a man noted for his daring and original proposals for such cities as Fort Worth, Boston, Rochester, and Fresno. July P/A will be not only an issue which presents illustrative and documentary evidence of where we are and where we are going in urban planning, but also one which develops a positive *theme* for what is needed in influencing the future shape of our urban areas. No architect or engineer who feels a sense of responsibility about these important matters will want to miss this issue.

Ralph Steiner





Pneumatic Control Center Serves Dual Purpose in New H. H. Robertson Co. Building

H. H. Robertson Co., Ambridge, Pa. Oscar F. Wiggins, architect, New York; Wm. A. Rose Associates, mechanical engineers, New York; Martin W. Wise, general contractor, Sewickley, Pa.; McCarl's Plumbing & Heating Co., Beaver Falls, Pa.

Top feature of H. H. Robertson Co.'s new office building is Robertson's own new dual duct air conditioning system, for which it developed the Aerator Mixing Unit and Q-Air Floors that carry hot and cold air to the units.

Shown above is the Johnson Pneumatic Control Center from which the system is supervised and controlled. Operational features of this specially designed panel include *continuous* indication and remote adjustment of fan speeds, temperatures and pressures; graphic representations of the system and its controls; optional recording of key temperatures and pressures; and start-stop switches for all equipment.

Although a comprehensive control panel such as this is not required for the normal operation of a Robertson Q-Air Floor System, it was installed in this case to obtain essential performance data for the guidance of Robertson research engineers. And, as nothing else could, it gives a clear, dramatic demonstration of the Robertson system to engineers, architects and other visitors.

Wherever quality is the key consideration, as it obviously is here, the chances are you will find a pneumatic control system by Johnson. A nearby Johnson engineer is ready to help you give your clients the very best. Johnson Service Company, Milwaukee 1, Wisconsin. 105 Direct Branch Offices.

JOHNSON CONTROL

PNEUMATIC SYSTEMS

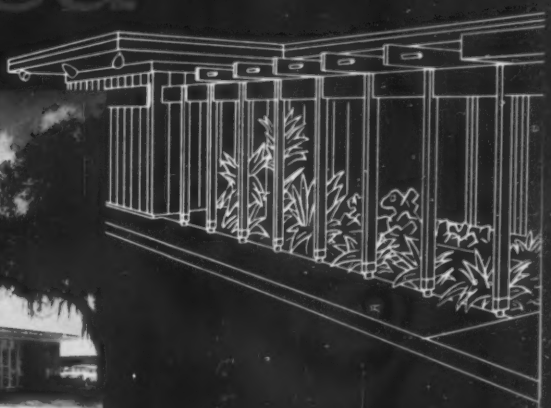
DESIGN • MANUFACTURE • INSTALLATION • SINCE 1885

TEMPERATURE CONTROL SYSTEMS FOR SCHOOLS, OFFICES, FACTORIES, STORES, HOSPITALS, HOTELS, PUBLIC BUILDINGS

For more information, turn to Reader Service card, circle No. 315

This modern office building

protected



against decay and termites

Wolmanized
PRESSURE-TREATED LUMBER

Modern as 1999 is this new office building designed for Robbins Manufacturing Company, Tampa, Florida. And in 1999 it will still be as modern as it is today, because it's built for permanency—built with Wolmanized® pressure-treated lumber.

Wolmanized lumber is chemically protected against decay and termite attack. It is clean, odorless, paintable, glueable and non-corrosive to metal fasteners.

For detailed information on Wolmanized pressure-treated lumber, consult Sweet's File, or call on the Wood Preserving Division, Koppers Company, Inc., 758-W Koppers Building, Pittsburgh 19, Pa.

Architect: R. James Robbins

Please send me full information on Wolmanized® pressure-treated lumber.

NAME _____

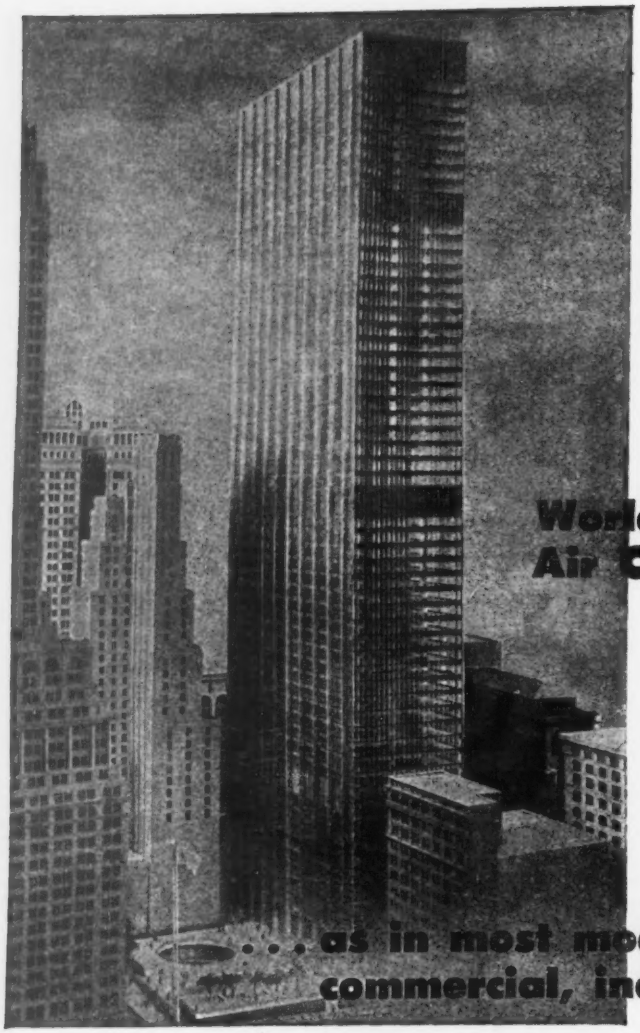
FIRM _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

KOPPERS

Wolmanized® Lumber



THE CHASE MANHATTAN BANK

World's Largest Completely Air Conditioned Building

Skidmore, Owings and Merrill
Architects

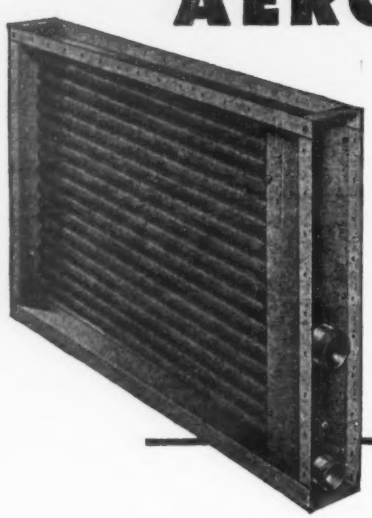
Jaros, Baum and Bolles
Mechanical Engineers

Turner Construction Co.
General Contractors

Raisler Corp. — Kerby Saunders, Inc.
Mechanical Contractors

. . . as in most modern buildings — commercial, industrial, institutional —

AEROFIN INSTALLED



Modern smooth-fin design of Aerofin coils permits ample heat-exchange capacity in limited space — permits the use of high air velocities without turbulence or excessive resistance.

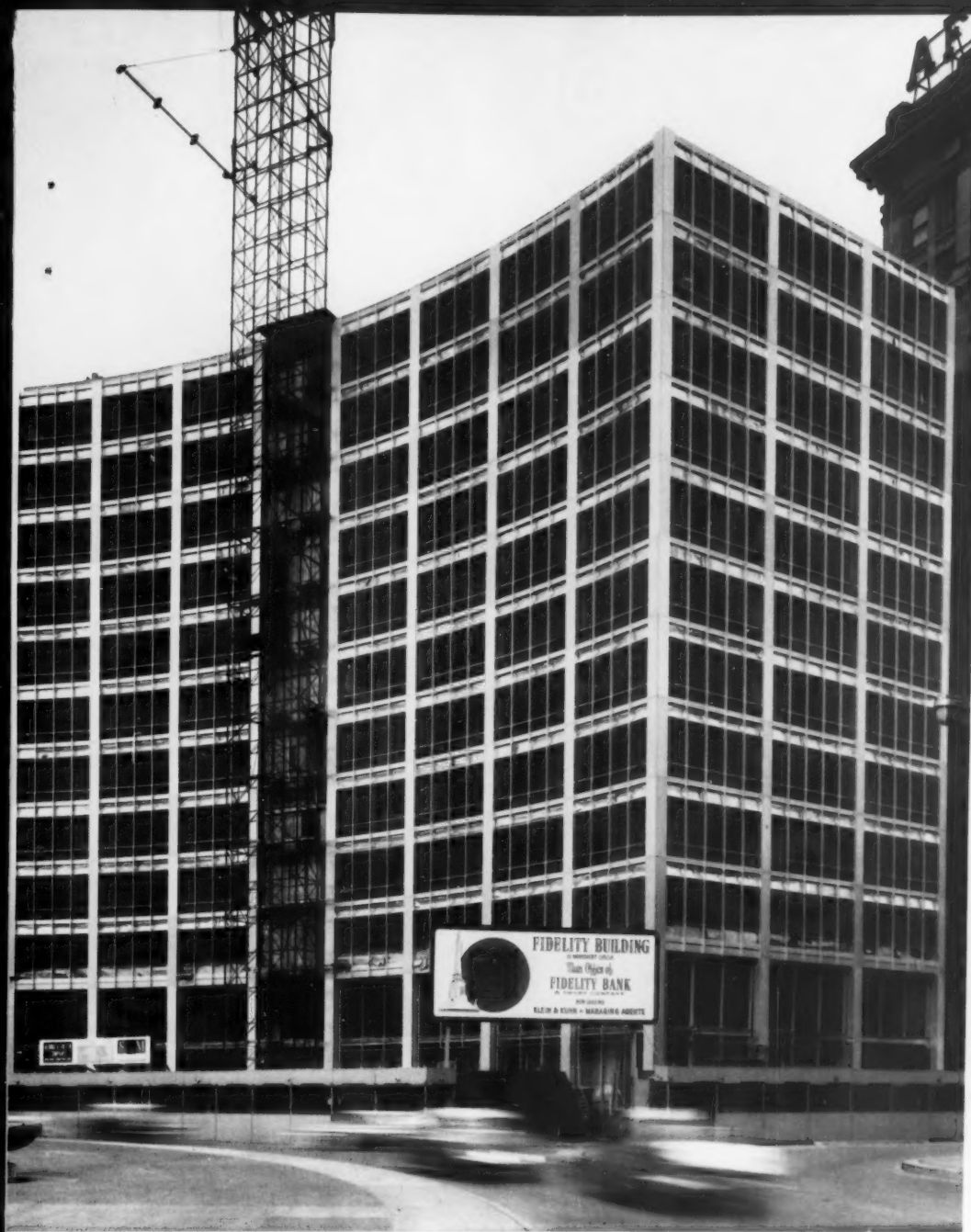
Aerofin performance data are laboratory and field proved. You can safely specify Aerofin coils at full published ratings.

AEROFIN CORPORATION

101 Greenway Ave., Syracuse 3, N. Y.

Aerofin is sold only by manufacturers of fan system apparatus. List on request.

ENGINEERING OFFICES IN PRINCIPAL CITIES



LOF GLASS

Concave to fit Monument Circle, the Fidelity Building stands 12 stories sheathed in glass.

Today, in Indianapolis the Architect is king

The sound of wreckers razing the old . . . the sight of builders raising the new . . . this is the exciting carnival of construction in Indianapolis today.

Almost $100 million in new buildings built or on the boards. Millions more wait only for the day when the Metropolitan Planning Department can complete its dramatic new concept of the Central Business District.

What's behind this sudden boom in building? Calvin S. Hamilton, Director of the Planning Department, explains it this way:

"Old family business management has moved over and professional management has moved in. Indianapolis has stopped ignoring new industry. Industry has stopped ignoring Indianapolis.

"Today, in Indianapolis the architect is king."

Viewed from the steps of the State Capitol, one sees the first multi-story curtain wall structure in Indianapolis—the ISTA Building, completed a year ago.

L·O·F GLASS

As you drive up Meridian to Monument Circle, you see the latest and most exciting achievement of the new ruler's reign. Concave to fit the circle, the glass-sheathed Fidelity Building rises 12 stories. It's still under construction but already strikingly beautiful. Designed by Skidmore, Owings and Merrill, developed by Klein & Kuhn, one of Indianapolis' most important realtors, this new office building utilizes the latest and greatest building materials and facilities created for comfort and efficiency.

The inside will be flooded with natural light, made soft and glareless by L·O·F *Parallel-O-Grey*® glass in the window walls. The outside is clean and sparkling with spandrels of smooth-grey L·O·F *Vitrolux*®. And it will stay that way as long as the building stands—the whole exterior will be washed every other week from a motorized scaffold. There is complete flexibility throughout Fidelity. Movable partitions, perimeter air conditioning, underfloor wiring. Another facility that is bound to cause comment: operatorless elevators that talk to passengers via electronic tape.

Alvin Elbrecht, Assistant Executive Secretary of ISTA, sits in a typical executive office. The State Capitol can be seen through the window.

"It is features like these," says Klein & Kuhn's Frank H. O'Connell, "that have sent our prospective tenancy rate far above our most optimistic expectations."

From the Fidelity Building we headed a few blocks to the west. Here, practically on the steps of the State Capitol, is the *first* curtain wall building in Indianapolis, completed for occupancy in the spring of 1958. It is owned by, and is the headquarters of, the Indiana State Teachers' Association. Its location,

This is the handsome new building of The College Life Insurance Company of America. Those five-foot-square windows are *Thermopane* with an outer pane of Heat Absorbing Plate Glass.

almost in the lap of the Legislature, is no accident. We talked about the nine-story ISTA Building with Alvin Elbrecht, ISTA administrative assistant, and with a representative of the architects and engineers, McGuire & Shook, Compton, Richey and Associates, who designed the building (and are also tenants).

Why did ISTA build it? The same old story—the space they'd been in became too small for their mounting membership, and any new space they *could* get wasn't new enough. They wanted the most modern, most flexible, most efficient, most comfortable space they could find. The only place they could find it—through an architect's talents.

Their new building is everything they had hoped it would be. Movable partitions, underfloor wiring, perimeter air conditioning. Windows are pivoted and glazed with L·O·F Heat Absorbing Plate Glass in west and south elevations. According to Mr. Elbrecht, this reduces sun glare and softens light intensity—not only on sunny days, but on un-sunny days when sky glare is a problem. Mr. Elbrecht insisted on this plate glass after visiting another teachers' association building which, he said, was uncomfortable. He's pleased with the results—says that L·O·F Heat Absorbing Plate cut the cost of air conditioning during the previous summer.

Office girls (shown here with Don Byers, Director of Office Services for College Life Insurance) work in complete comfort behind windows of *Thermopane* insulating glass.

Do tenants like it? No question about it. Fourteen tenants have already occupied 75% of the space. Such people as International Harvester, Olin Mathieson, National Labor Relations Board.

Our next visit—The College Life Insurance Company of America. In the new two-story building, we talked to Don Byers, Director of Office Services. Having outgrown its old quarters (in operation only twelve years, this company has climbed into the top 20% in total amount of life insurance in force), the firm shares the new space with four other tenants. Big five-foot-square windows glazed with *Thermopane*®, fill the interior with natural light (the *Thermopane* in the west wall has an outer pane of Heat Absorbing Plate to prevent heat build-up in summer).

Clean, comfortable and strikingly handsome, the College Life Insurance building has a strong prestige value for its tenants. According to Mr. Byers, it is easy to get tenants and easy for tenants to get good employes. They like the comfort and have real pride and respect for "their" building.

From the College Life Insurance building we drove over to Eli Lilly's little "city" of 44 company buildings. In the center stands a shining new building, quite unusual in function. It houses not only humans, but a huge electronic computing machine that is a great deal less hardy than its human counterparts. This machine is so big, so intricate, so hypersensitive to temperature change and humidity variation, that it is sealed inside a glass "cocoon"

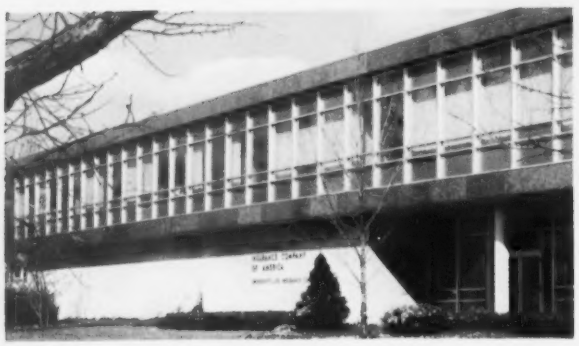
Windows of *Thermopane* in offices of Eli Lilly and Company.

of *Thermopane* (shown at the left). Lot Green, Eli Lilly engineering executive who supervised the design of this building with architects D. A. Bohlen & Son, said this three-story structure "will eventually soar to twelve".

That's the story. The story of an awakened and eager city. It's a story of people who have deep pride and respect for their new buildings as well as new pride and respect for their town.

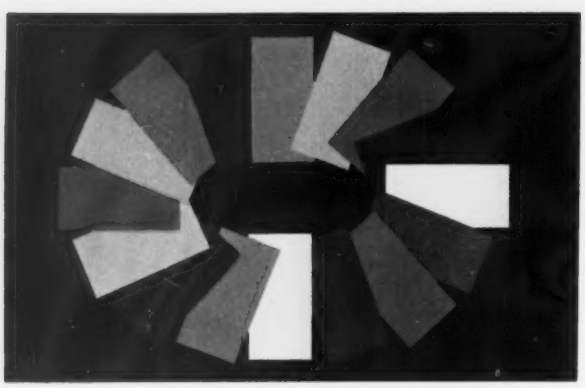
And the man they thank is the architect.

Long live the king!

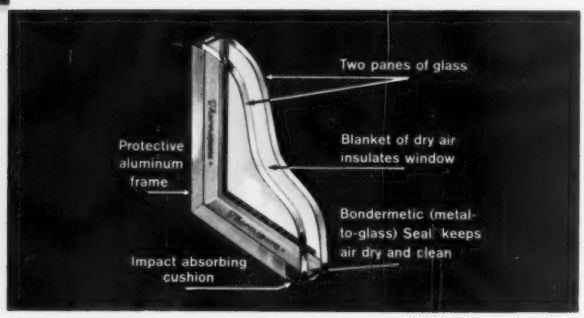


HEAT ABSORBING PLATE—For reducing the initial cost of air-conditioning equipment and its operating cost, L·O·F makes two kinds of ¼″-thick polished plate glass: Heat Absorbing and *Parallel-O-Grey*. L·O·F Heat Absorbing Plate Glass has a pleasing blue-green color. *Parallel-O-Grey* has a neutral grey tone that does not change the color of objects seen through it. Both offer some relief from sun glare; *Parallel-O-Grey* to a greater degree. Comparison of solar heat transmission is as follows:

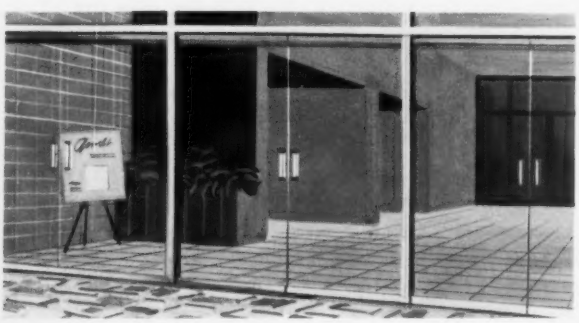
¼″ Regular Plate Glass	79.9%
¼″ Heat Absorbing Plate	46.3%
¼″ Parallel-O-Grey	46.6%



VITROLUX®—Used instead of masonry as an exterior facing material, also for interior partitions. Rich color, fused to the back of this clear, heat-strengthened plate glass, adds youthful beauty and cheerful character to your building. Natural resistance of weathering, crazing and checking. Standard maximum size of *Vitrolux* panels is 48″ x 84″. Special orders up to 60″ x 84″. Thickness: ¼″ plus 1/64″ minus 1/32″. Sixteen standard colors plus black and white. Also in non-standard colors subject to manufacturing limitations.


Two panes of glass
Protective aluminum frame
Blanket of dry air insulates window
Bondermetic (metal-to-glass) Seal keeps air dry and clean
Impact absorbing cushion

THERMOPANE—For maximum comfort and for heating and air-conditioning economy use *Thermopane* insulating glass in windows. Heat loss is cut almost in half compared to single glazing. Drafts near windows are reduced for the greater comfort of employes. Outside noises are muffled. *Thermopane* is available in two new improved types: *Thermopane* with metal-to-glass *Bondermetic Seal®* and enclosed in an edge-protecting aluminum frame; and *GlasSeal® Thermopane*, an all-glass insulating unit that is ideal for both wood and metal sash.



TUF-FLEX® DOORS—These frameless, clear-glass doors invite visitors into a building. And they can withstand, with virtually no maintenance, all of the traffic they help create. Made of ½″-thick or ¾″-thick tempered plate glass, they are 3 to 5 times tougher than regular plate glass of the same thickness. 16 types in finished sizes up to 48″ in width, and 108″ in height. *Tuf-flex* Doors are furnished complete with cast bronze or alumilited aluminum fittings which are designed to take standard pivot hinges and builders' hardware.

L·O·F GLASS

LIBBEY·OWENS·FORD

a Great Name in Glass TOLEDO 3, OHIO

For complete information on any of these L·O·F products, call your L·O·F distributor or dealer (listed under "Glass" in the Yellow Pages). Or write to Libbey·Owens·Ford Glass Company, 608 Madison Avenue, Toledo 3, Ohio.

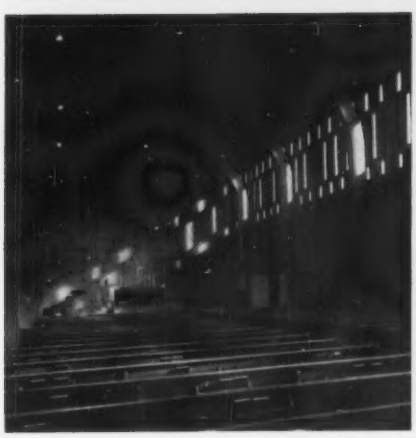
Litho in U. S. A.

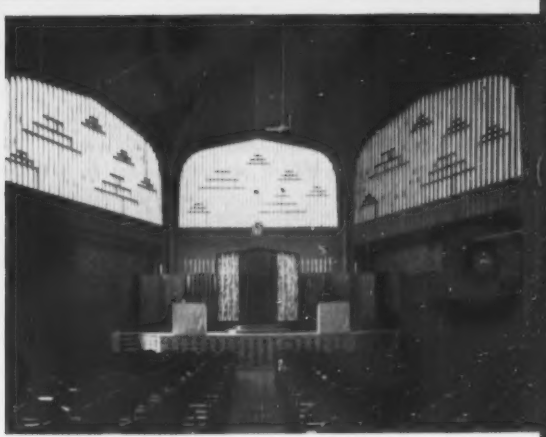
four houses of worship

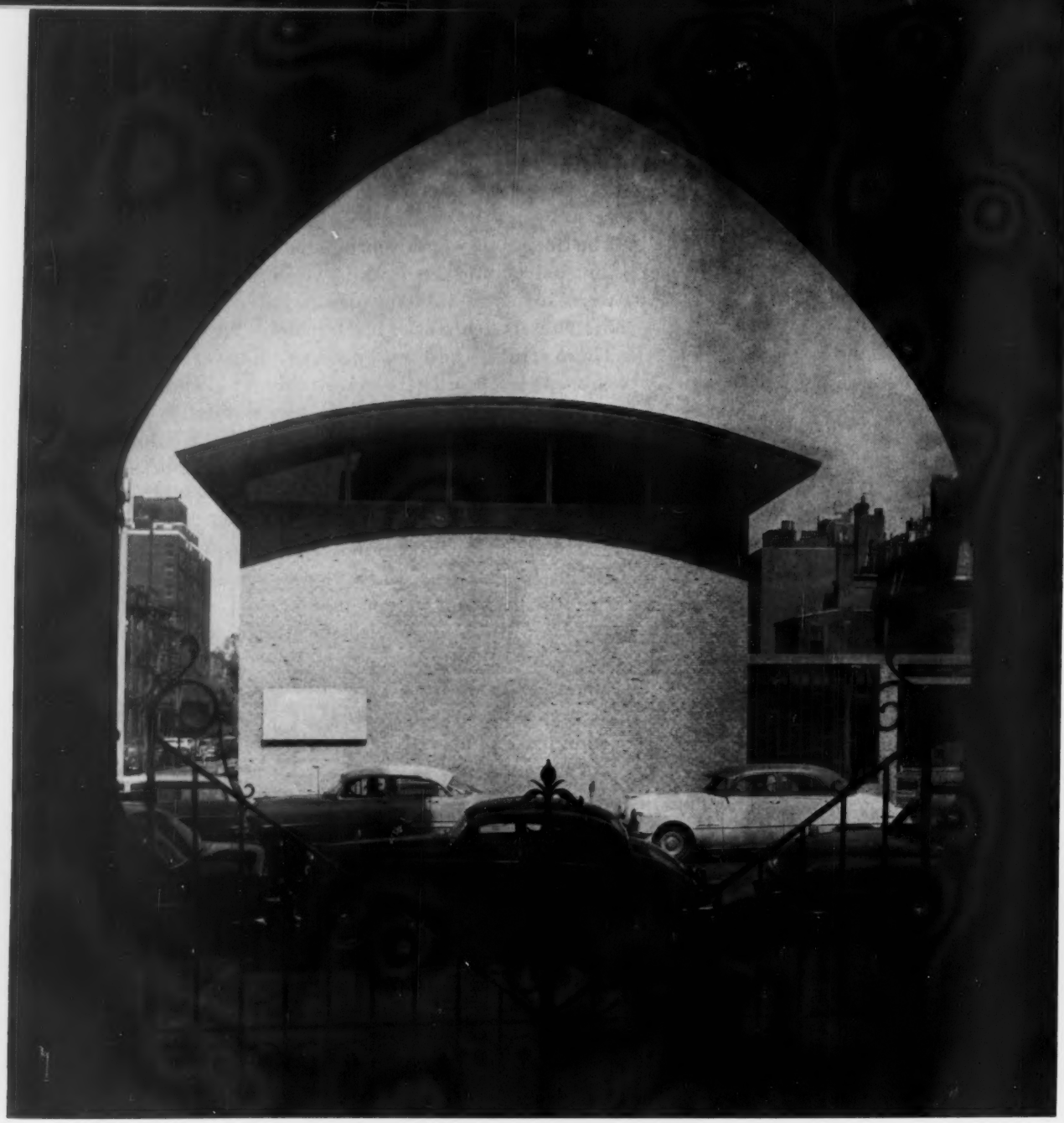
The houses of worship presented in this issue comprise an unusual group. For, while various architects and firms were involved in their design, there is one architect—Pietro Belluschi—who had a hand in the design of all four. These are: 1 The First Lutheran Church of Boston, Massachusetts—Pietro Belluschi, Architect; 2 Unitarian Church of Montgomery County, Bethesda, Maryland—Keyes, Lethbridge & Condon, Architects, with Pietro Belluschi Associated Architect; 3 Central Lutheran Church, Eugene, Oregon—Belluschi and Skidmore, Owings & Merrill, Architects; and 4 Temple Israel of Swampscott and Marblehead, Incorporated, Swampscott, Massachusetts—Belluschi and Carl Koch & Associates, Associated Architects with Leon Lipshutz, Associate.

In an effort to analyze the design wish behind each of the four buildings, the late George A. Sanderson asked Dean Belluschi to put into words something about the design goal that was dominant in each case. Their combined comments appear with presentations of the buildings on subsequent pages.

1 2
3 4

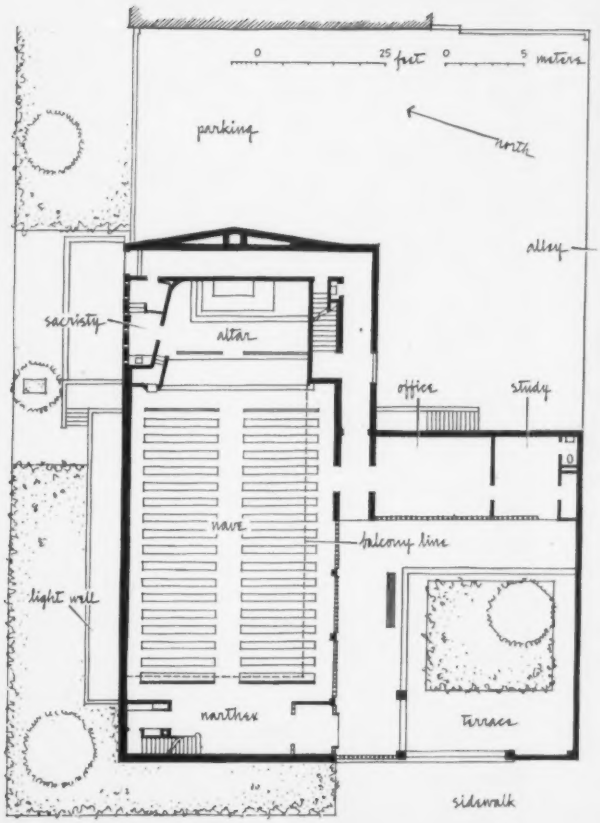






Lutheran Church, Boston, Massachusetts

The design problem here was to provide an appropriate house of worship on a busy intersection in Boston's residential Back Bay area. To avoid the abrupt transition from street to worship room that an entrance directly from the sidewalk produces, the plan is developed with a court at one side, and the transition from outdoors to indoors is gradual and subtle. In Belluschi's opinion, "the most satisfactory and saving element of this church is the color and texture of the brickwork. I must admit that the understatement I intended to make in the design was somewhat overdone." The rather stern exterior form comes to life richly in the well lighted, serene interior, with its relieving elements of wood screens, church furniture, and texture. "The segmental roof," Belluschi comments, "was an attempt to get away from an entirely flat roof without going into a pitched one. I also wanted to shade the high slit windows. This kind of natural lighting I have found to be very successful in halls of this kind." But he is self-critical of the design result achieved, feeling that the roof design "doesn't read too well." The building is framed with steel columns and arched beams; brick walls are of cavity construction. Nichols, Norton & Zaldastini, Structural Engineers; Stressinger, Adams, McGuire & Reidy, Mechanical Engineers; Lilly Construction Co., General Contractor.



Photos: Joseph W. Molitor

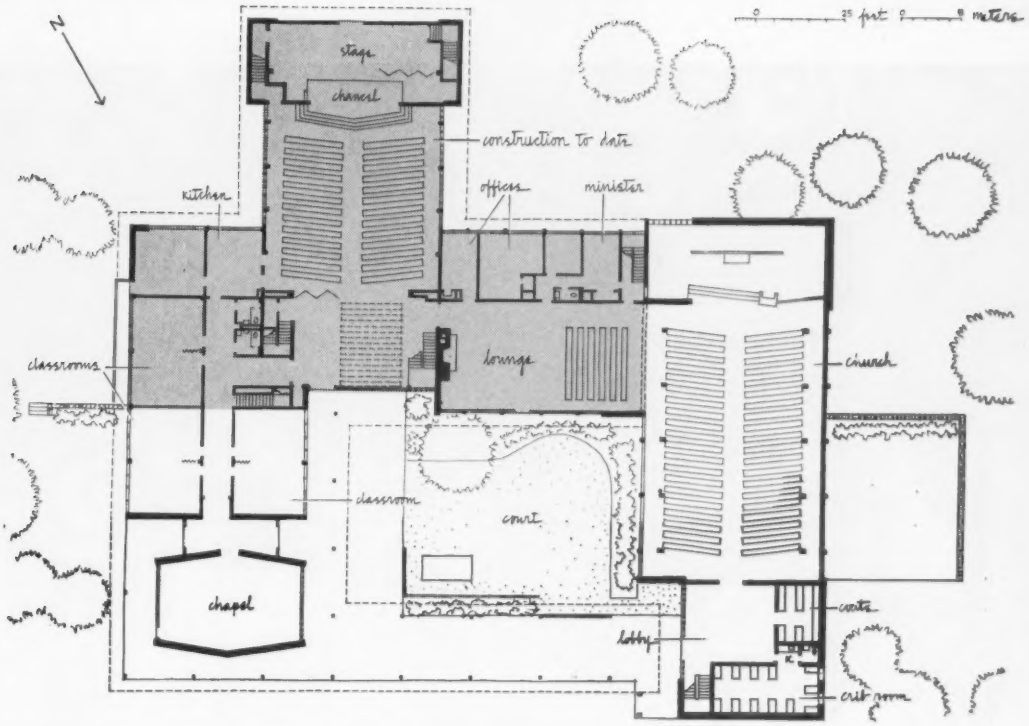
Lutheran Church

From the sidewalk, parishioners enter a peaceful courtyard, with vine-hung, overhead trellis. The court walkway leads to a sheltered church porch (below) *that is shielded from the street with textured glass.*

The center of worship is bordered by a slatted wood screen that, with its backing of sound-absorptive material, contributes to the excellent acoustics of the room.

Unitarian Church, Bethesda, Maryland

A familiar, but always difficult, problem that confronted the associated architects in the design of this church was the need to develop a scheme that would produce a good result, esthetically and functionally, in each of three stages of construction. Shown here is the Stage One phase; next areas to be built will be four more classrooms and a children's chapel; the final stage will be the main church. At present, the 250-seat Assembly Hall is also used for religious services. A ground floor contains ten classrooms, two kindergartens, and service rooms. Belluschi reports a "most happy" association with Architects Keyes, Lethbridge & Condon, and goes on to say: "It is apparent that when the chapel wing, the church proper, and the landscaped entry court are built, the whole complex will be greatly improved. . . ." Due to code requirements, structure is reinforced concrete with steel purlins and gypsum decking; to blend the building with its setting, wood is used for exterior siding and window muntins; shingles are cedar. The assembly hall is steel framed. Stone-wall areas are a local red-brown sandstone.



Photos: Joseph W. Molitor

The eventual scheme is shown in the plans and sketch above. "The court will provide a landscaped transition space as well as a needed tie to the ground," Belluschi points out.

Because of the site slope, the lower-floor classrooms have windows wholly above grade (right).

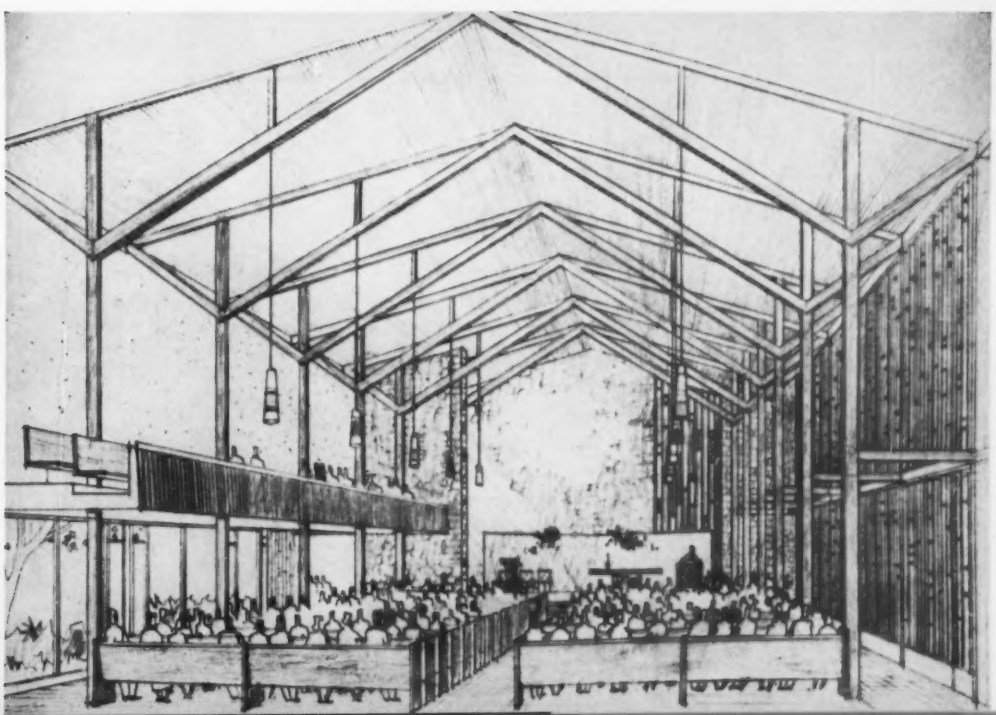
Unitarian Church

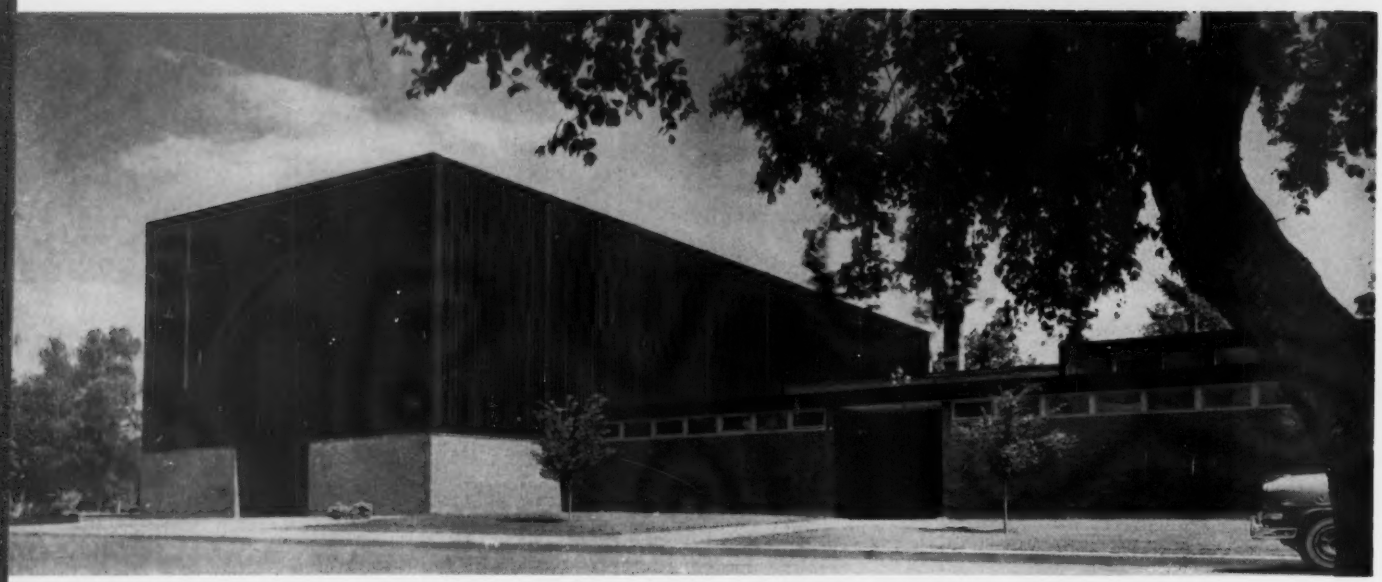
Assembly Hall windows are glazed in three shades of gray; gold; and clear glass. Services are conducted from forward portion of stage; folding of Shoji screen in back opens up full stage for dramatic productions. Suspended from ceiling structure are reflective acoustical baffles made of butternut.

Folding partitions in the classroom area (above) *allow flexibility of use.*

The lobby stair (right) *leads up to a seating balcony.*

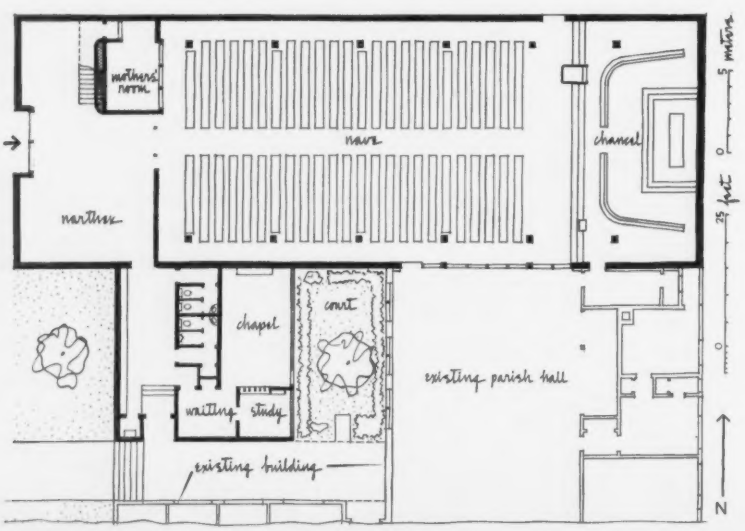
Sketch (below) *visualizes the future church.*





Lutheran Church, Eugene, Oregon

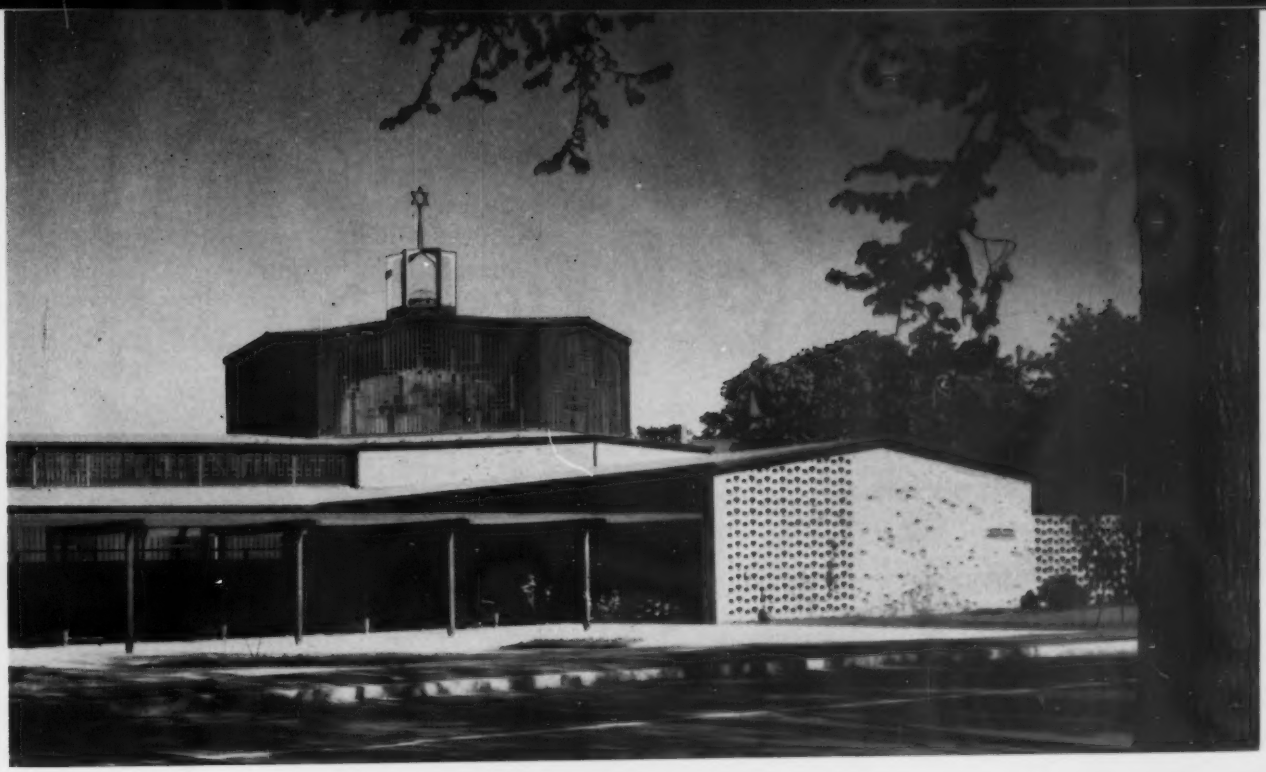
The program called for the addition of a church and chapel to an existing parish house to serve a congregation of 500. Placement of the chapel wing 18 ft west of the parish-house wall creates a peaceful, small tree court bordering the chapel's windowed wall. A soundproof room is provided at rear of nave for mothers with babies. Structure consists of laminated-wood beams, with 2-in. tongue-and-groove roof planks and curtain walls of wood, brick, and cathedral glass. "This framing system was chosen," according to Skidmore, Owings & Merrill, "first for its regionalism, since timber is the native product of this area, and second for the freedom of the interior space that the system provides." The handling of the wood and brick, plus the natural light from narrow strips of colored glass, result in a room with exceptional warmth and texture. Belluschi himself feels that "somehow, this church has one of the most successful interiors in my experience," while he finds the exterior appearance of the building a little severe. Cooper & Rose, Structural Engineers; J. Donald Krocker & Associates, Mechanical Engineers; Pettingill & Kelley, Electrical Engineers; Albert Vik & Son, Contractor.

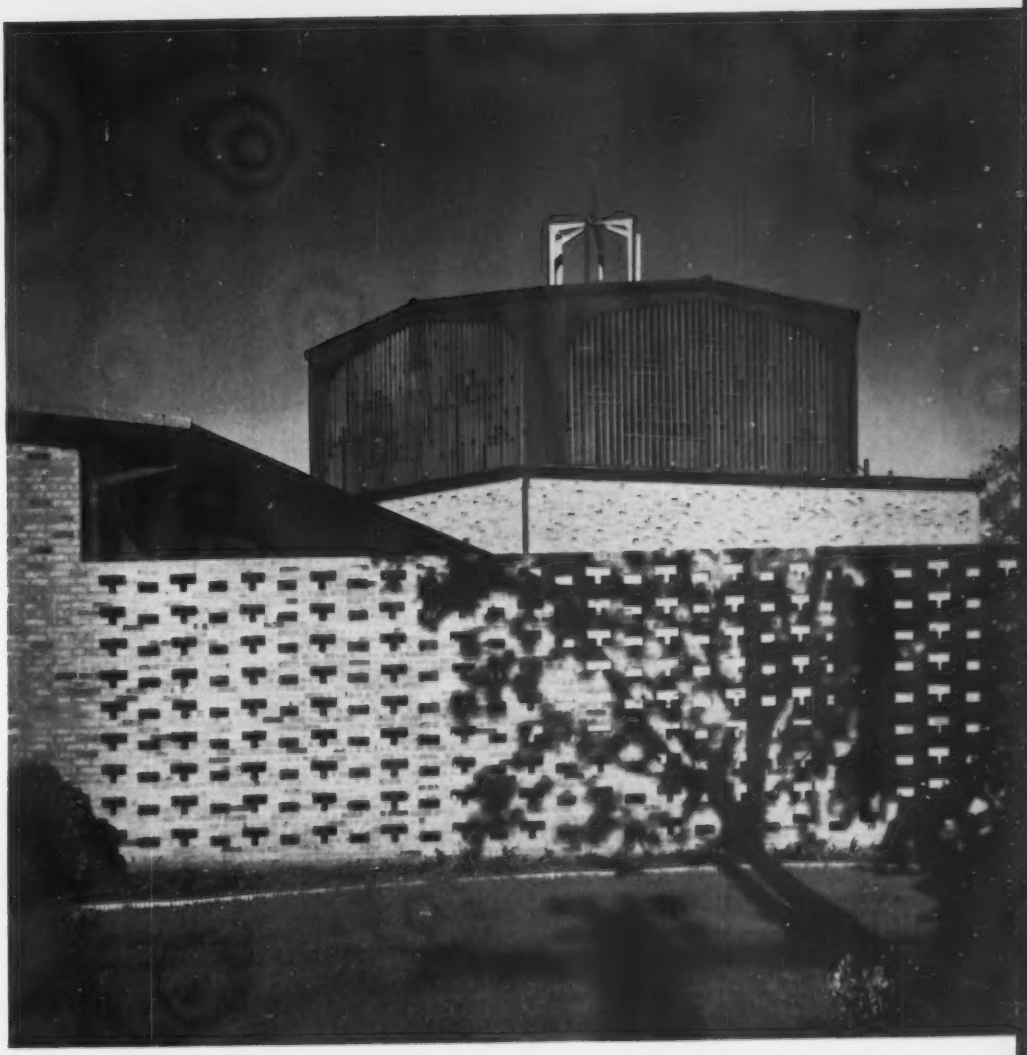


Photos: Tom Burns, Jr.

Synagogue, Swampscott/Marblehead, Massachusetts

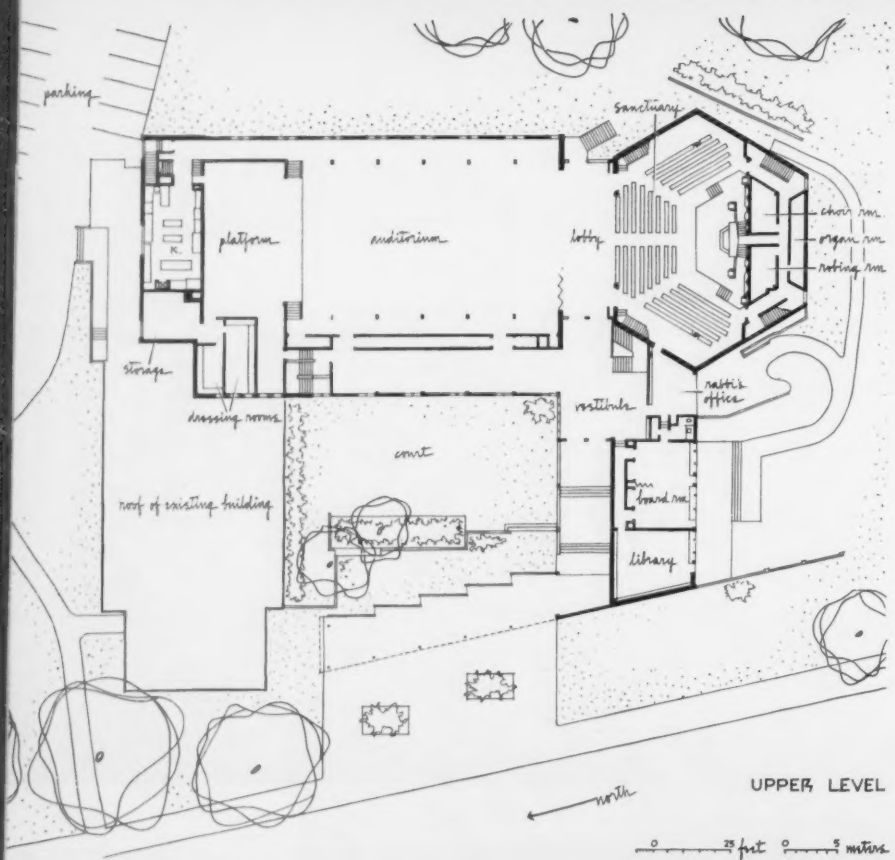
A special problem with which the associated architects had to cope in design of Temple Israel was the need to incorporate into the plan an existing, largely above-grade structure (that had been built as the basement for a new synagogue, from plans later abandoned). This is the low wing on the north side of the forecourt (left *above*), which now contains a vestry with stage, kitchen facilities, and heater room. Also on this lower level —beneath the floor detailed—are classrooms, assembly hall, hexagonal chapel (under the sanctuary), and miscellaneous service rooms. As is always the case in the design of a synagogue, the areas had to be flexible enough to accommodate small congregations the year round and also the entire congregation on high holidays. The solution employs folding doors that can join the whole auditorium space with the sanctuary area. In discussing the design, Belluschi points out that "the high, hexagonal portion of the temple protruding above the other wings provides the symbolic climax and needed accent." Commenting on his collaboration, he reports "there was great harmony between Carl Koch's office and myself, particularly working with Leon Lipshutz, who bore the brunt of the responsibility." Framing includes both structural steel and laminated wood. Floors are concrete; walls are brick, glass, or wood. Thomas Amirian and R. G. Vanderweil, Consulting Engineers; Lilly Construction Co., Contractor.





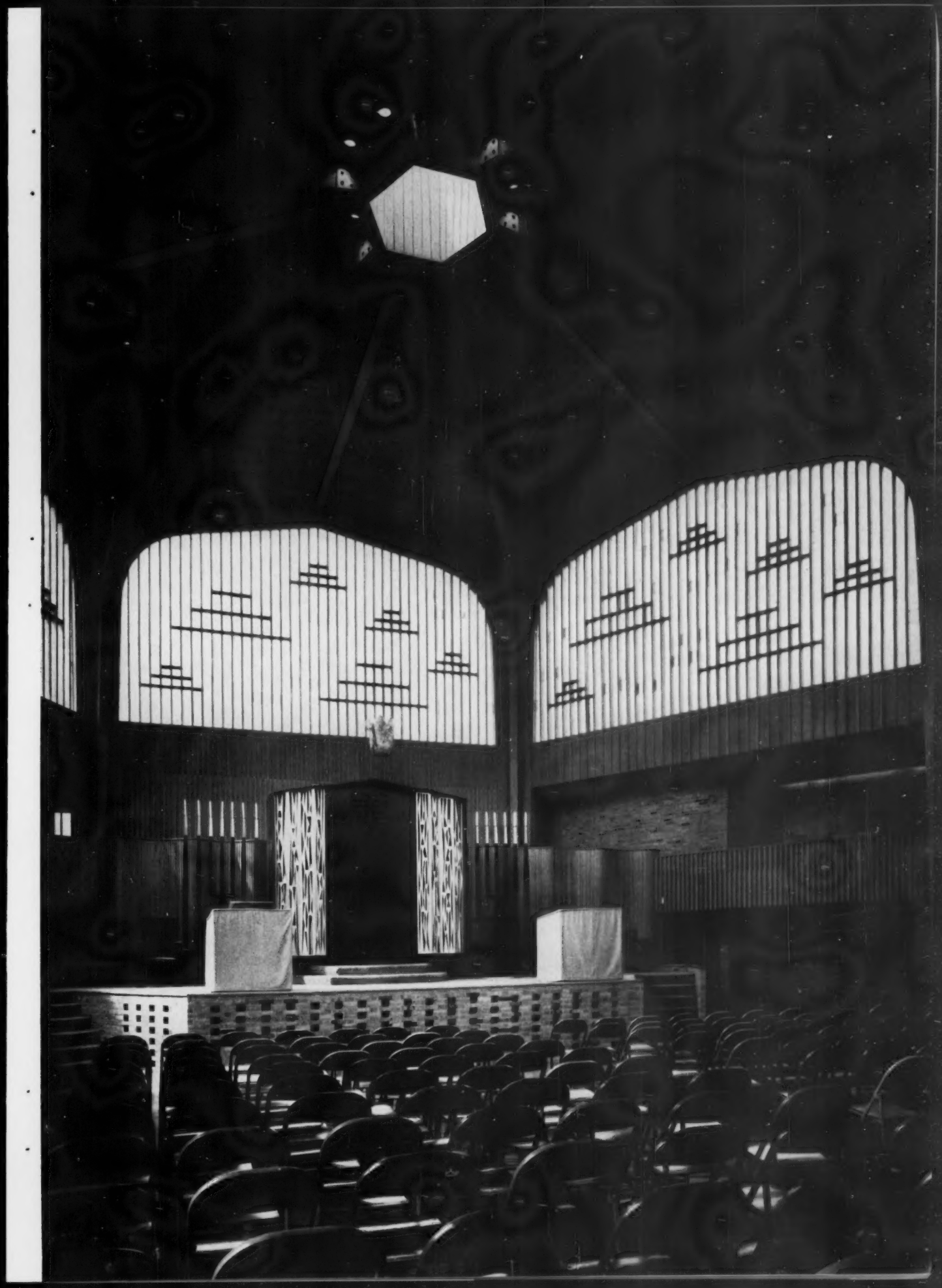
Photos: Joseph W. Molitor

Synagogue



Glass insets in the huge, arched windows in the upper portion of the sanctuary are in tones of amber, blue, and purple; wall finishes, like those of the exterior, are of wood or exposed brick.

For the large congregations, the assembly room (foreground above) becomes an extension of the sanctuary, by means of fold-back door panels.

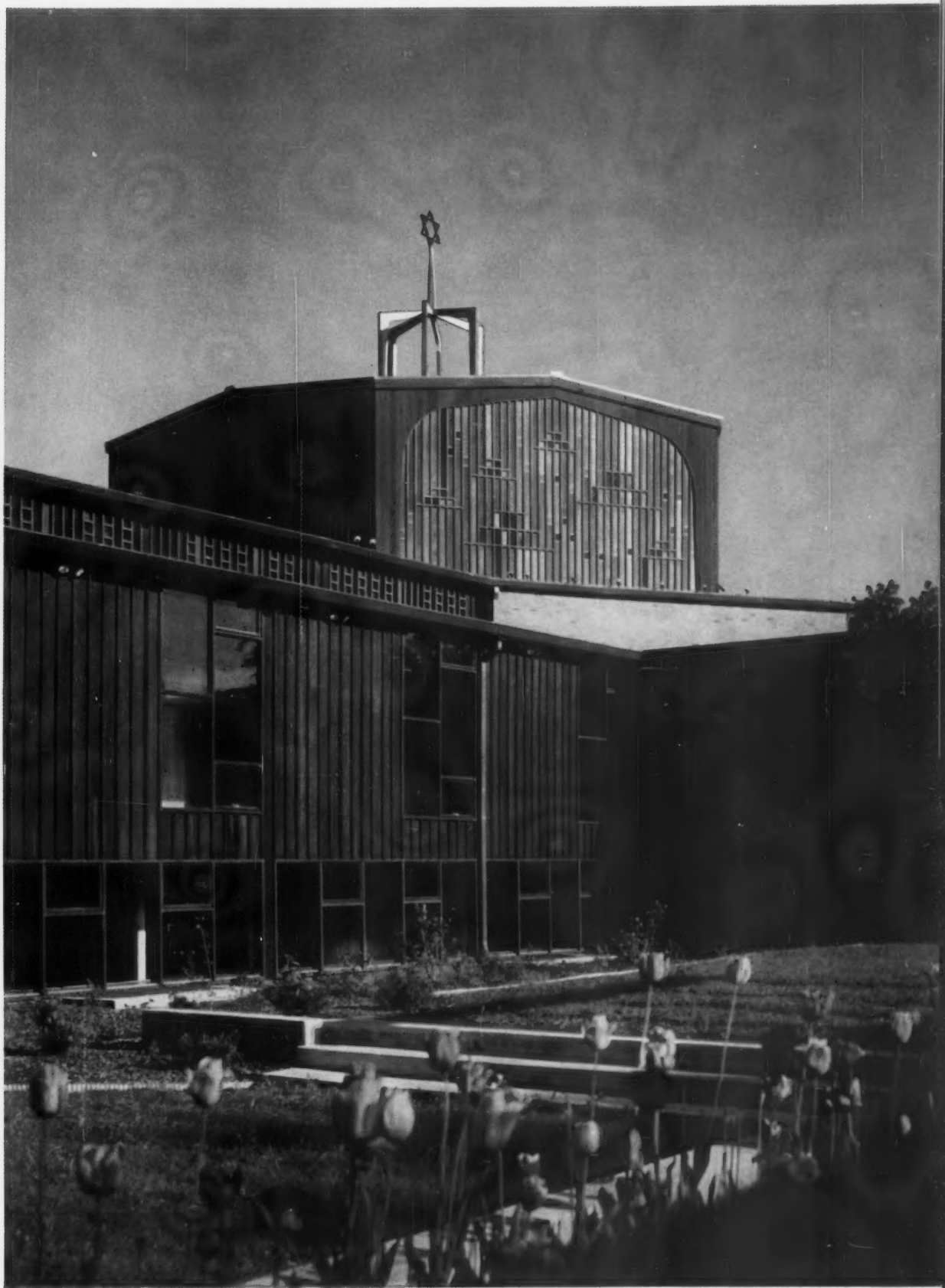


Synagogue

Classrooms (top) *line the east wall of the lower level of the building and have windows that are fully above grade.*

Supplemental daylighting enters the assembly hall (center) *through clerestories.*

The library (bottom) *occurs in the south wing, at an intermediate level.*



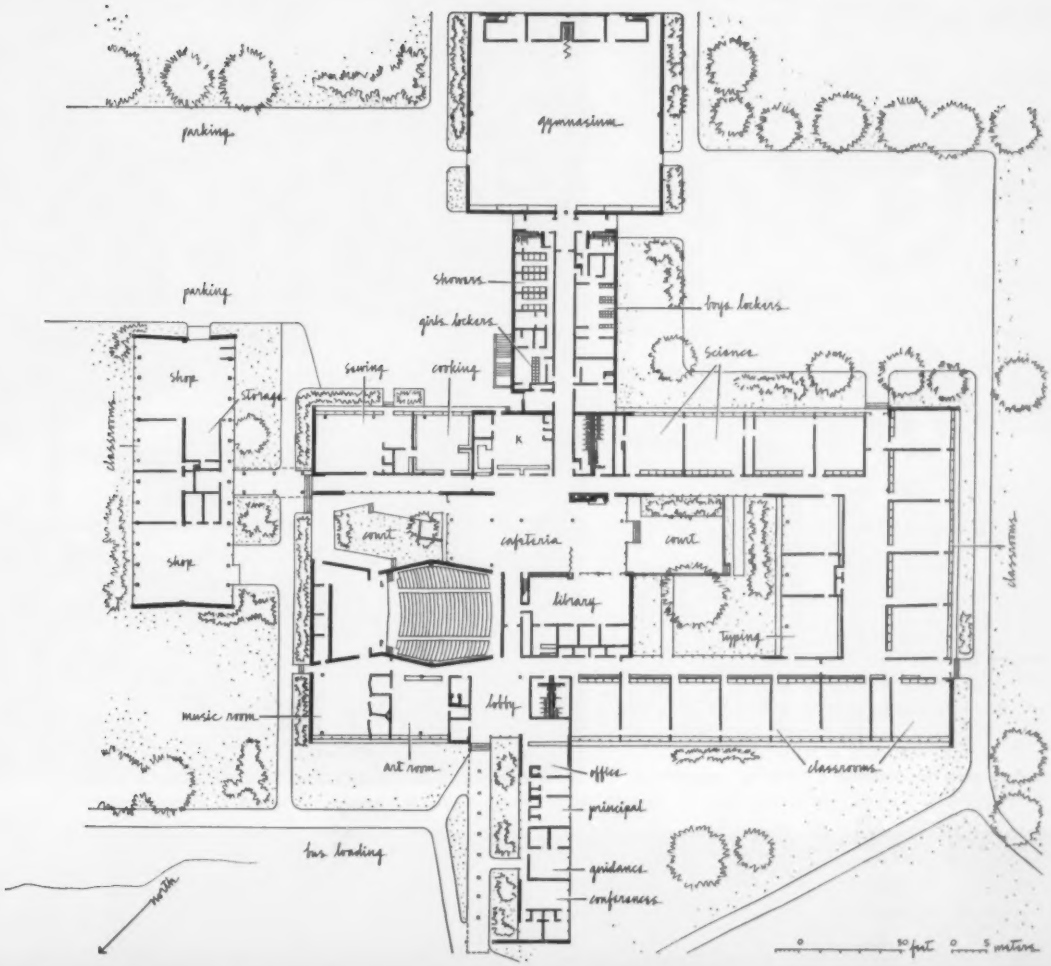
high school

location	Littleton, Massachusetts
architect	The Architects Collaborative*
structural engineer	Goldberg LeMessurier Associates
mechanical engineer	Fred Dubin & Associates
acoustical consultant	Bolt, Beranek & Newman

This combined junior/senior high school accommodates 600 students, at present: with addition of another classroom unit, there will be room for 900. The teaching program includes college-preparatory, commercial, home-economics, and industrial-arts courses. The school is also widely used for meetings of town groups and for social affairs. Perhaps the most outstanding elements of the plan are the organization around landscaped courtyards, and the clear articulation of functions, with the gym and shops set well apart from the quieter school areas. The very flexible cafeteria/student-center space that opens to both courtyards serves a variety of school uses as well as accommodating many of the extra-curricular activities. Except for the gym; the shop wing; and the large hall between classrooms at the southwest end, which are steel framed, the school is of concrete lift-slab construction, raised on steel columns. Materials were selected for ease of maintenance, long life, and esthetic quality. Filler walls are of gray face brick, with cinder-block backup, and interior surface of architectural glazed tile. Spandrel areas of portions of the metal-framed window walls are porcelain enamel in four, closely related shades of blue.

Floorings used include asphalt tile; vinyl tile; cork; and maple block. Ceilings are acoustical tile; acoustical form board; painted plaster; or painted concrete. General Contractor was Tornabene Brothers, Inc.

* *Partners: Jean B. Fletcher, Norman Fletcher, Walter Gropius, John C. Harkness, Sarah P. Harkness, Robert S. McMillan, Louis A. McMillen, Benjamin Thompson. Associates: Richard Brooker, Herbert Gallagher, Witold v. Henneberg, H. Morse Payne, Jr.*
Photos: Joseph W. Molitor

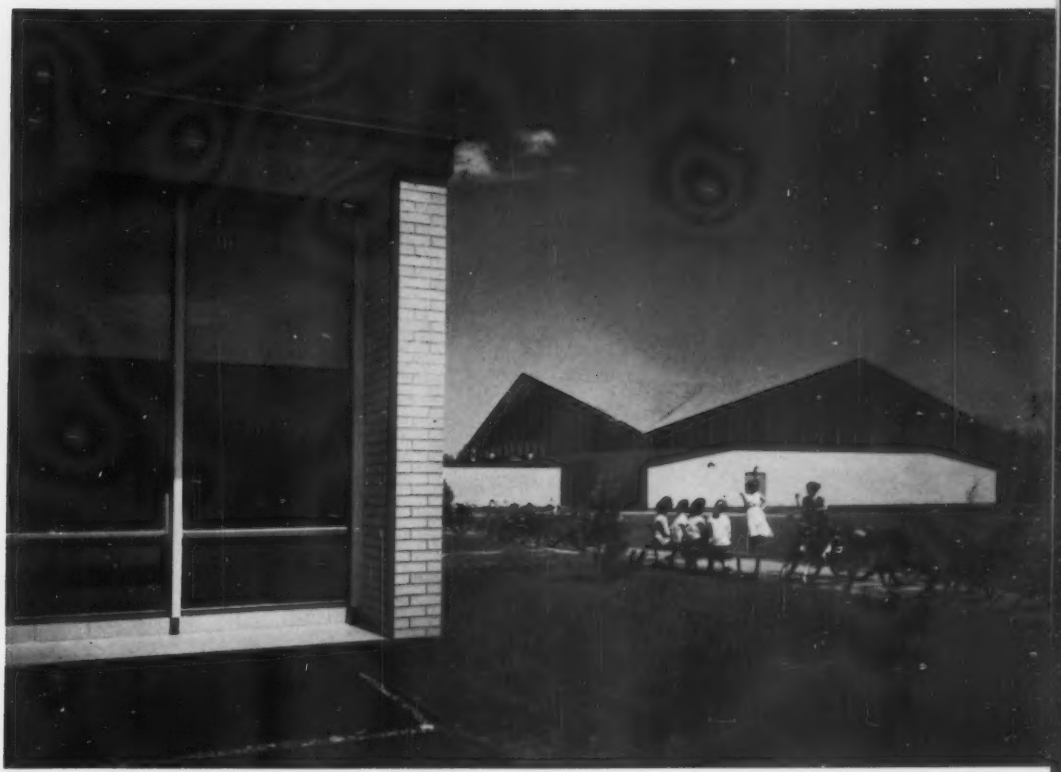


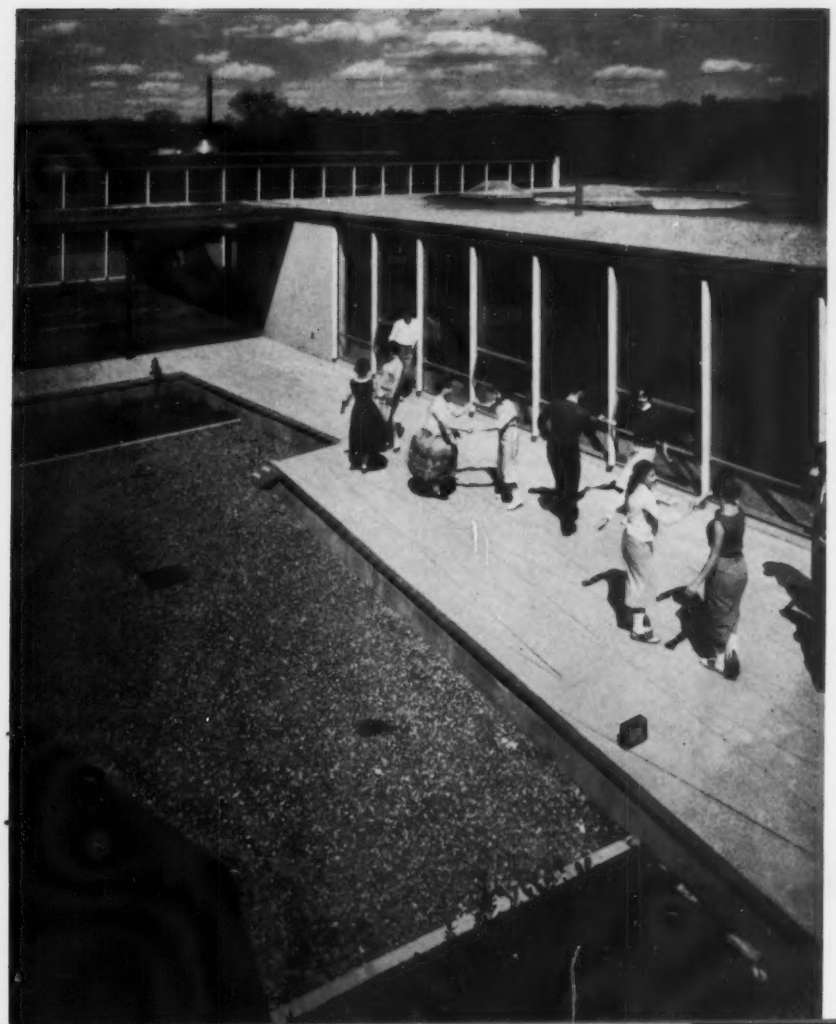
Photos: Joseph W. Molitor

high school

The covered entrance walk parallels a wing containing school offices and student guidance rooms.

The shops (left, below) are set apart from the main building. The floor slab is cantilevered over the foundation wall, both to minimize a rather high foundation wall and to give the building a "floating" appearance.

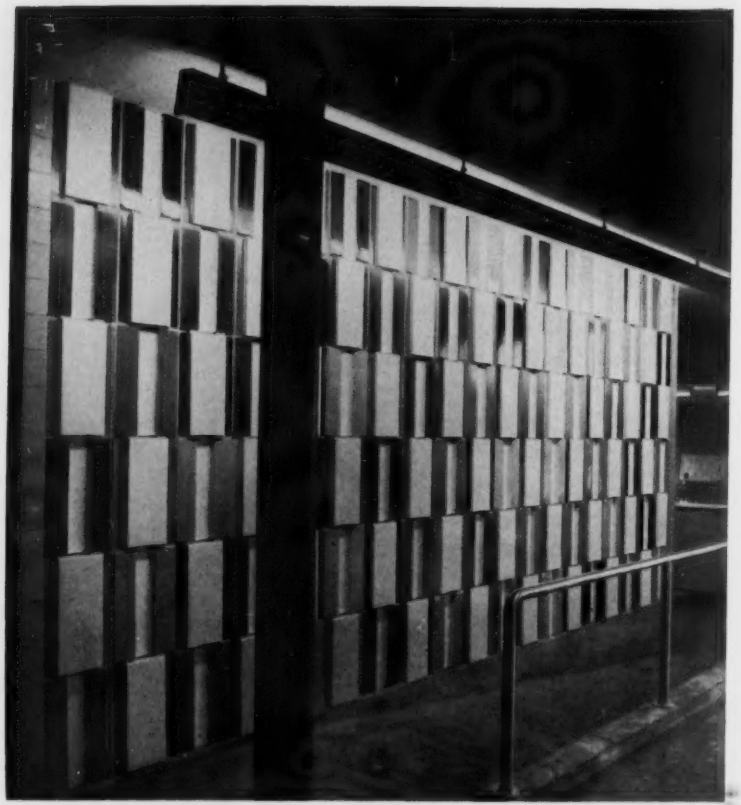




The shaped roof of the gym—a double intersecting hip plate truss—forms a dramatic visual element seen from a corner of the classroom block (above).

The smaller of the two courts (left), *to which there is direct access from the auditorium stage, is used for rehearsals and recitals as well as providing daylight for interior spaces.*

high school



In the entrance lobby is a brightly colored, abstract, decorative panel (right) *made of glazed, terra-cotta blocks. The colors repeat hues used on doors and other accent areas throughout the school.*

The suite of commercial classrooms (below) *is sound-isolated from other instructional areas by large courtyard and a wide hallway.*

In the typical classroom (above), *the rear wall has glazed tile up to the tackboard; acoustical tile above. The ceilings are surfaced with acoustical tile.*

A large clerestory-lighted hall (left) *separates commercial-instruction rooms from typical classrooms.*

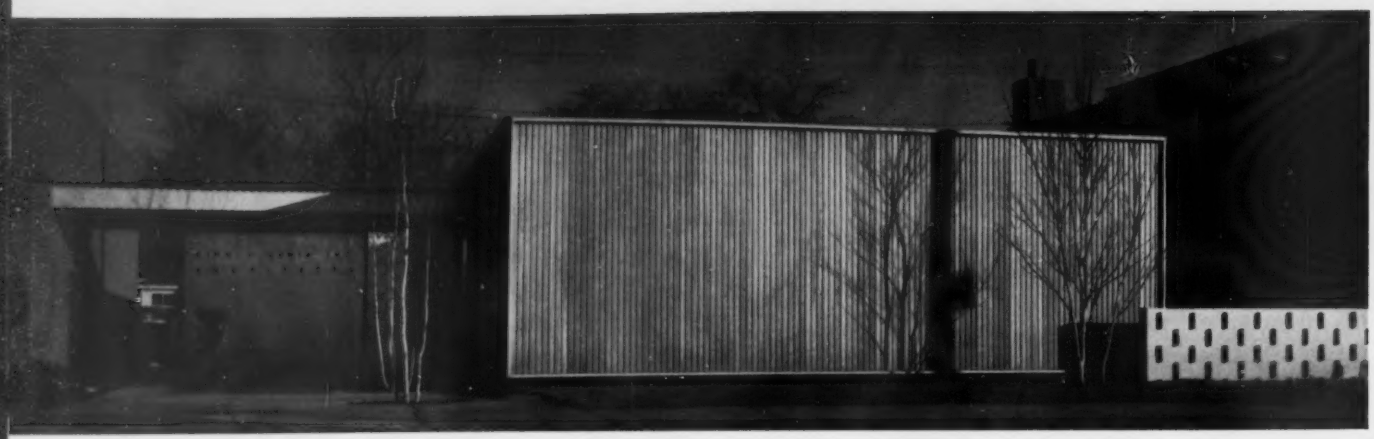
high school

The flexible, cafeteria/student-center area (upper photo) *serves a multitude of uses by both the school and the town.*

Auditorium (bottom) *seats 354; music and art departments adjoin stage and double as dressing rooms.*

All-welded steel members frame the gym (top). *When the roof is fully loaded, the load is taken entirely on the four columns under the peaks at midpoint of each side wall. A folding partition forms two smaller gyms; fold-out bleachers provide seating for 680.*

The two shops (bottom), *each with its own classroom and storage space, occupy a separate building.*

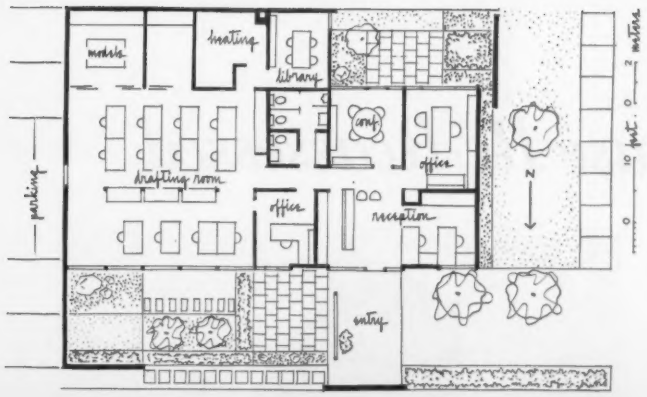


architect's office

location	Detroit, Michigan
architect	King & Lewis Architects, Inc.
engineer	Migdal & Layne

The Architects have created an inviting environment for their own professional use on a routine sort of urban site—60 ft by 90 ft—with one-story buildings at either side. The site was selected because it is near a major expressway and not far from downtown Detroit. The setting of the building back from the front lot line and development of an entrance court and garden on the entire north 20 ft of the property are striking departures from the neighborhood pattern. Another garden occurs at the southwest corner.

The architects tell us that the plan functions well, with work areas satisfactorily related. A wall surfaced with vertical wood siding constitutes the western street front; a sand-blasted sign panel separates entrance court and drafting-room garden. A textured, concrete-block wall at the end of the drafting room continues as a garden wall and shields a parking alley at the rear. Construction is post-and-beam on a 6-ft module supporting a flat roof, of which the wood deck, beams, and columns are left exposed in the drafting room. Heating is a forced-air system on the perimeter of the 4-in. concrete-slab floor. Kendall Construction Co., General Contractor.



Photos: Lens-Art

Seagram House Re-Reassessed

There has been a quantity of architectural "criticism" of Seagram House, very little of which has discussed the building as a work of *architecture.* This published comment has treated the structure—a great office building which occupies a key half-block on one of New York's busiest mid-town thoroughfares—as though it were a large piece of sculpture with no functional purpose worth discussing. Perhaps Seagram House *is* merely a huge sculptural construction, as is Gabo's great work alongside Breuer's department store in Rotterdam. If it were merely that, then it would be a useful act of criticism to say so (Lewis Mumford has referred to it as a "monument"). However, if it is also intended to serve a social and commercial function as a skyscraper office building and as a means of usefully investing a large amount of capital (as we know, of course, that it is), then surely its success or failure as a commercial building might be included in critiques of it as architecture.

Lewis Mumford wrote an appraisal of Seagram House in *The New Yorker*, reprinted in the January, 1959, *Journal of the AIA*, in which he says very frankly, "I have confined myself to its manifest esthetic qualities. I have not considered the practical and functional demands that must be integrated in any complete work of architecture. . . ." Prof. William H. Jordy wrote on article which *The Architectural Review* published in December, 1958, under the title, "Seagram Assessed," in which he is not so frank. In fact, he barely mentions the fact that Seagram House is an office building; it apparently makes no difference in this appraisal for what usable purpose the building was designed. One might almost assume, reading Jordy's critique, that it was another of Mies' well known apartment houses, especially since it is compared throughout the article with those Chicago buildings. What a move away from functionalism to pure consideration of pure form when the *use* of a building being "assessed" not only is not analyzed or criticized, but also is scarcely considered worth mentioning!

It has been generally agreed among critics and students of the critical process that the branch of esthetic criticism which encompasses analysis of architecture should include a number of points of reference. Whether one is satisfied with Wotton's translation of Vitruvius' three criteria (commodity, firmness, and delight) or whether one develops one's own list of "things to

". . . the great mass of the shaft, sitting on two-story-high legs."

Photos: Alexandre Georges

". . . this piled-up rear projection . . ."

". . . the handsome relation of ground-level interior space to the plaza."

judge" (for instance: function, technique, and handling of space), there is certainly more to evaluate in a work of architecture than whether ". . . Mies' Hellenism is peculiarly Germanic" (Jordy), and deeper architectural implications involved than whether there is here ". . . unqualified emphasis on the vertical" (Mumford). I would go even further (again with rather distinguished precedent) and insist that there are even more "ways to judge" than the one value judgment of esthetic pleasure. There are surely, in addition to the pleasure value of "I like it" (or not), the values of context and those of formism (symbolism, stylism, and so on). In other words, there are more ways to consider the building than by the ". . . aesthetic impact that only a unified work of art carried through without paltry compromises can have" (Mumford), and one might question whether "perhaps the most significant aspect of the Seagram Building is its visual weight" (Jordy).

The trap that seems to have snared these two estimable critics, and others, is the great temptation of judging Mies' work (or Wright's or Le Corbusier's—or even, recently, Stone's or Rudolph's or Yamasaki's) purely as form, and not at all as architecture. This reduces values to one—technique—and value judgments to perhaps two—historical and formalist.

As an example of the sort of question one might ask in order to widen the critical base: How does Seagram House fit the concept of the urban commercial center, as it is being restudied by serious planners concerned with blight, with traffic congestion, with the need for more vista and less monotony in the city center? Mumford, it must be pointed out in fairness to him, does consider (to discard) this matter; he points out that the building has ". . . a few urban drawbacks," but these are brushed aside in favor of the building's "positive qualities."

The building's congestion—both internal and as an added increment to midtown density—can surely be debated. It is partly an owner-occupied office building but largely a for-rent series of floors (renting at very high rates; renting successfully, apparently). Does Park Avenue need more office space at the moment; or may the present mad rush to tear down all the sound buildings of the '20s and build speculative (or even proprietary) office space lead to a who-holds-the-bag catastrophe of a glut of rentable space? Should a

Photo: Alexandre Georges

". . . lower floor, space is articulated, evocative, moving."

". . . interior, claustrophobic space . . ."

Warwick & Legler, Inc., offices: Designs For Business, Inc.

Photo: Ben Schnall

building, even by Mies, be a separate entity, or should it be related to a larger development plan? What can the individual architect with the individual commission do about these broader matters of urbanism? Is he the *only* one who can possibly see the many-buildings-together problem? Or is he powerless to do anything but solve the one-building problem? In most instances, he probably is without wider powers; it may well be that one should not criticize the *architect* for these limitations. But surely the *architecture* which results can be questioned. I find myself coming to this critical conclusion: a midtown office building in the center of one of our great urban complexes which, like Seagram House, ignores today's vital relationship to the over-all development and redevelopment of that urban center may be admired as form but cannot be applauded as "good" total architecture. In this respect, we cannot find Seagram House any better than (if no worse than) any other new Park Avenue office building (including the projected Gropius-Belluschi-Roth-designed Grand Central City). There is one important exception—the plaza.

With regard to Seagram's plaza, commendable as it is, one can still quibble. It is not so much usable, urban opening of the site as it is a visual phenomenon. Mumford says, "Some of that openness will disappear when the vacant block to the north is occupied . . ." Whereas Jordy (who doesn't want open space, but a setting for Seagram House) is happy that "A bulky money-maker now building on the block will suitably wall the Seagram plaza. For once, greedy coverage deserves applause." Pleasant as this open space is to look at, it is not intended, apparently, for human beings to use (as is, for instance, the delightfully usable Mellon Square in Pittsburgh). Again, to quote our critics: Mumford deplores "two or three lapses" such as the fact that ". . . the architects beckoned the passer-by to loaf and invite his soul, but they absurdly failed to provide any benches, which they no doubt thought might mar its spatial purity." Jordy doesn't *want* people, except as design elements, and he includes in his *favorable* critical comments the fact that "absolutely nothing" exists on this slab-plaza and that people (in contrast to the "almost too popular, outdoor space at Rockefeller Center") are simply "human figures moving in long diagonals across the pristine, pink granite Seagram slab [which] evoke Giacometti figures." There are, he points out, low parapets, and "It is to these that idlers (*sic*) are banished. . . ."

One matter of urban relationships in the setting of Seagram House deserves all the applause it has received: the pleasant recognition it affords McKim, Mead & White's

newly appreciated Racquet Club across the street. The bold modern giant and the reserved aristocrat of tradition seem to complement each other and extend a mutual due.

What about Seagram House as space used for a purpose? Is it beautiful space? Is it emotionally moving space? Is it space which adapts itself well to the social purposes of the building? I feel that there would be no disagreement that the lower-floor space is handsomely handled, articulated, evocative, even moving space, with a ". . . ceremonial grandeur in the merger of plaza and lobby" (Jordy) that is marked by "Such purity and dignity [as] are completely lacking in most contemporary metropolitan architecture . . ." (Mumford).

But what about space in the upper floors, so fully ignored by both the critics we are quoting? Here the result is not so happy. One finds two kinds of space on an office floor (as in almost any recent office buildings): a limited amount of peripheral space, occupied almost inevitably by executive offices; a large amount of interior space which might as well be underground or in Hoboken as far as the users are concerned. In Seagram, by and large, the exterior space has breathtaking views of Manhattan's mid-district. Users of this outside space seem to be divided in their reactions as to whether the unusually deep glass area is pleasant, unpleasant, or an unimportant factor to be blocked out by floor-to-ceiling draperies or venetian blinds, so that one can get on with the day's work. Many do, quite seriously, experience a sense of vertigo. The sheer tower forms a sheer precipice, which to some tenants is rather terrifying.

As for users of the interior space, they seem to be in unanimous agreement (off the record): being relegated, in a square-plan office building, to space between the core (elevators, toilets, lobbies, etc.) and the outer offices, is most unpleasant. Seagram is basically a squarish building in contrast to the ". . . now standard thin, slab-shaped building . . ." which Mumford deplores. Thus it has a large proportion of this interior space which, no matter how well lighted, no matter how well ventilated, is still interior, claustrophobic space. And the fact that many of the floors—even those rented by tenants who have had their own architects or decorators do the interior "design"—use the Mies-Johnson floor-to-ceiling doors and other trademarks of the building, does not make the space, as space, any more pleasant or any less confined. In the Seagram offices, the great conference room—36 ft wide and 69 ft long, with the standard 9-ft ceiling—cries for the greater height that two stories would have provided.

". . . a sense of vertigo . . . a sheer precipice . . ."

O. E. McIntyre, Inc., offices: Ketchum & Sharp

Photos: Alexandre Georges

". . . apparent industrial-design-construction discipline . . . is . . . symbolic."

". . . might as well be underground or in Hoboken . . ."

Seagram offices: J. Gordon Carr

Photos: Ezra Stoller

". . . the great conference room cries for greater height . . ."

To consider just one other point which has been ignored by the critics whom we have been quoting: the apparent industrial-design-construction discipline of the curtain wall, the integrated lighting-ventilation ceiling, and the partition system is, of course, merely symbolic. In somewhat the same mood as the Miesian "expression" of a structure by showing nonstructural elements applied as a symbol of the real thing, Seagram House uses a module (symbol of the industrial-assembly approach to architecture) which made impossible the specification of any standard, industrially produced component, without cutting and patching. One of the architects who fitted a tenant into his rented space told me that he had never worked on a building in which it was so impossible to use any existing material without expensive wastage. Mumford says that "van der Rohe himself has gone back to Louis Sullivan's concept of the skyscraper as a 'proud and soaring thing,' " but what a misreading of Sullivan's attitude toward skyscraper design! Here we have a structural and planning module of arbitrary size, adopted in order to achieve a proportion which is based on esthetic decision. Sullivan's suggestion, rather than this, was that "The practical horizontal and vertical division or office unit is naturally based on a room of the comfortable area and height, and the size of this standard office room as naturally predetermines the standard structural unit and, approximately, the size of window openings. In turn, these purely arbitrary units of structure form in an equally natural way the true basis of the artistic development of the exterior."

There are other technical questions which can be asked critically about Seagram House: does the benefit of the 75 percent glass area justify the greatly increased air-conditioning cost; should the four sides of a building as open to solar rays as this be handled as though all orientations were the same; has the problem of glare been countered by the increased artificial lighting, called for by the lighting consultants, at the perimeter?

Both Jordy and Mumford *like* the Seagram Tower. Jordy likes it because, he feels, in its handling of the relationship of exposed symbolic structure to true structure and to the actual curtain wall, this building ". . . participates in a widespread reaction against the ideal of weightless transparency, which, until very recently, has provided the impetus for modern architecture." Mumford appears to like it despite himself ("van der Rohe's famous motto 'Less is more,' comes to mean, in the end, 'Nothing is even better,' " he says at one point) for a number of purely emotional reasons: "It is everything that most of the office buildings that have been going up in

the mid-town area in the last few years are not"; it is "quietly ostentatious"; there is "purity and dignity"; he likes its "classic execution"; he believes it is "the best skyscraper New York has seen since Hood's Daily News Building"; it is a "muted masterpiece." Can one classify as "the best skyscraper" a structure that one has not studied as a usable building?

I am glad that Mies and Johnson were allowed to design this sport. I agree that it is a beautiful, dignified, somber shaft, refined in all its proportions and details to a point of great sophistication (but not of antiweightlessness, Professor Jordy; one of its glories as a spectacle is its floating-above-the-street quality at night.) For a time I felt that the great mass of the shaft, sitting on the two-story-high legs was imbalanced and awkward; I expected the struts to crumple and the building to sag on one knee, so to speak. I have gotten used to that proportion now, and I will almost go along with Jordy's feeling that it "meets the earth firmly on heavy, two-storey stilting." I am not yet ready to admire in any way the low pile behind (usually, in actuality and in photographs, hidden by the main shaft) which, for me, has little relation either to the main building or to the adjacent, transient, lower buildings (to which the five-story street frontages of this piled-up rear projection presumably do relate).

To summarize my reactions: I find myself tremendously moved by the suave beauty of the shaft (though disturbed by the off-Park Avenue aspects, because of the rear protrusion); I am impressed by its arrangement of space on the lower floor, and by the handsome relation of that ground-level interior space to the plaza and to the street (though I *dislike*, subjectively and after talking to users, most of the space, as architectural space, on the upper floors).

However, in the ways that one must look at a work of architecture other than as an isolated piece of virtuosity, I find myself objecting to the building in its urban context as a functioning social instrument and to the building in the technological context of modular-assembly design-construction (masquerading as a prime demonstration).

As to whether Seagram House is, formistically and stylistically, the end of an era, the beginning of an era, the first of the skyscrapers of weighty solidity or the last of the skyscrapers of weightless transparency; whether it stems from the Monadnock block or the Farnese Palace; these questions I am willing to let the historians and the learned reviews debate. I am going to object again, however, if they call this criticism of architecture.

T.H.C.

Photo: Alexandre Georges

". . . refined in all its details to a point of great sophistication . . ."

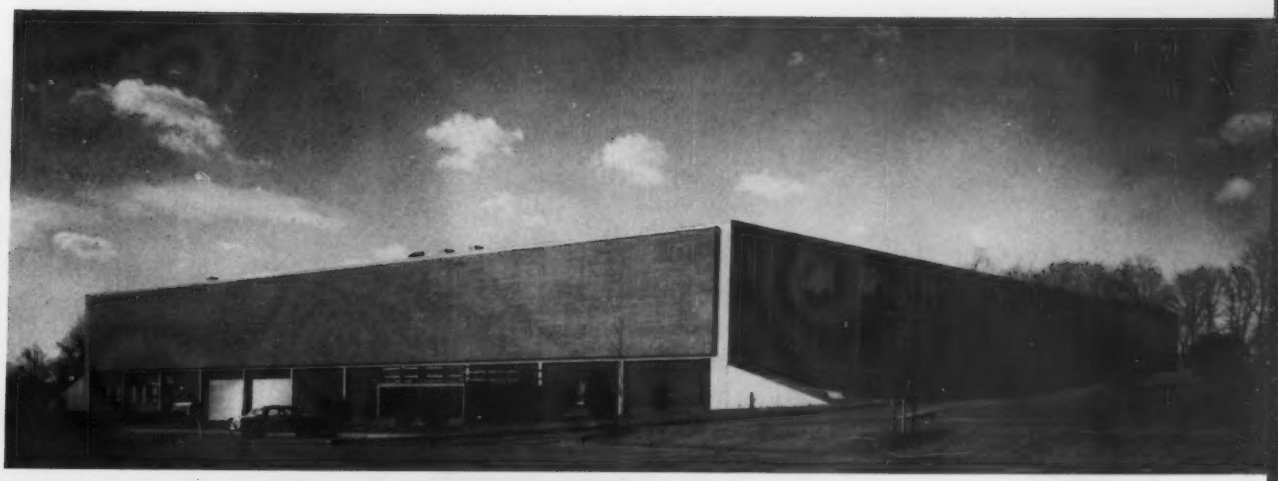
the corporate neighbor in the suburb

Whether industry should decentralize or recentralize will long be debated. The three companies whose new headquarters are shown on the following pages chose to settle in the suburbs, where employes could be offered healthier and more comfortable quarters, and where major travel difficulties could be avoided. This shift has brought a number of new problems, such as the reluctance of the suburban home owner to accept this invasion of his domain, and the reluctance of the employe to part with the city. Appeasement lies largely within the powers of the architect—as is implied by these examples.

1 Dorr-Oliver Incorporated: Stamford, Connecticut

In designing the headquarters for Dorr-Oliver Incorporated—an international organization of engineers specializing in the solution of process problems in chemical, metallurgical, sanitary, and similarly related fields—it was the problem of Architects Sherwood, Mills & Smith to provide efficient office space for the company, to express the basic engineering character of the client and, at the same time, to respect the interests of the homeowners of this suburban area. This last requirement was perhaps most demanding of the architects, since a design variance had been obtained over local protests, allowing erection of an industrial structure in a residential zone. To this end, the building was kept low and well back from the street; major parking areas were concealed at the rear of the site; and the grounds were carefully landscaped. That the aim has been accomplished is evidenced by the fact that the finished building has not only calmed the storms of protests but also has actually been effective as an instrument of good will.

The building was planned as first-class, climate-controlled, loft-type space, based on a 6-ft planning module for maximum flexibility of arrangement. Permanent partitions occur only in service sections and in the executive office area. Structural bays are 24 ft square, the typical bay being a reinforced concrete flat slab with dropped panel at the column. Form work was kept to a minimum by repetition of equal bays, requiring only variation in reinforcement for different load conditions. The only atypical framing condition occurs at the entrance loggia where 48-ft rigid frames were used, employing the standard rectangular columns as the vertical frame members. After careful investigation of

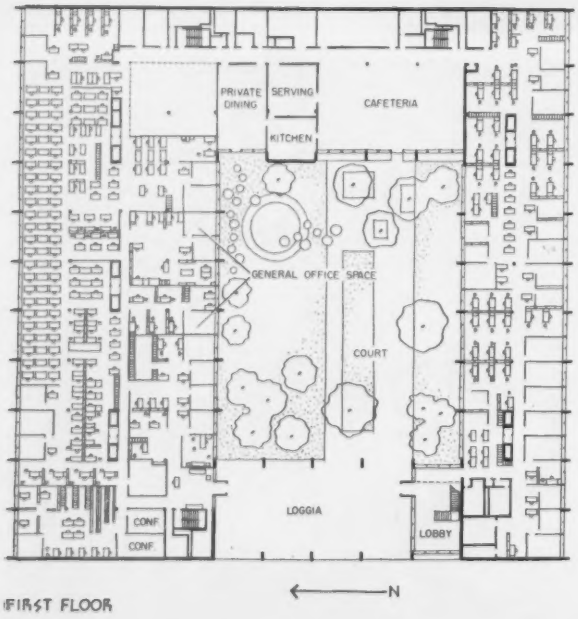


Photos (except as noted): Joseph W. Molitor

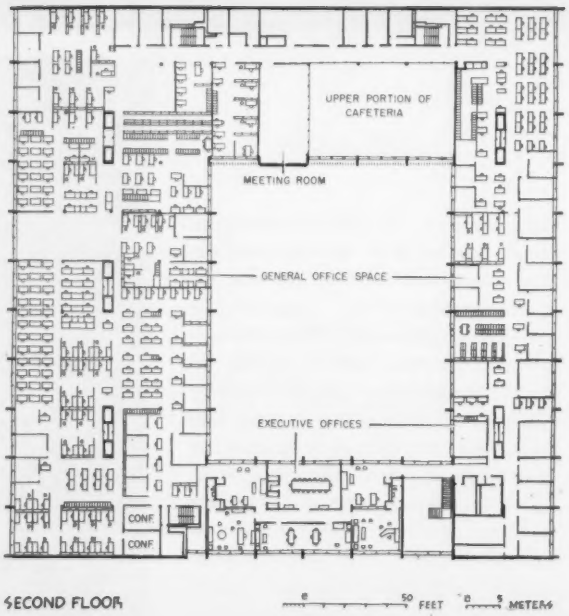
other systems, the reinforced-concrete frame was found to be not only the most economical for the bay size involved but also the most practical and attractive architecturally. The reinforced-concrete structural module, in this instance, provides the bold and unifying element for panels of glazed, gray, face brick, terra-cotta-tile screens, gray or clear glass panels on the 6-ft module, and a bronze sunscreen sculpture *(see also page 154)*. In certain areas the reinforced-concrete frame serves also as window-washing platform and as built-in sun-control device. Since low cost, flexi-

Fairchild Aerial Surveys, Inc.

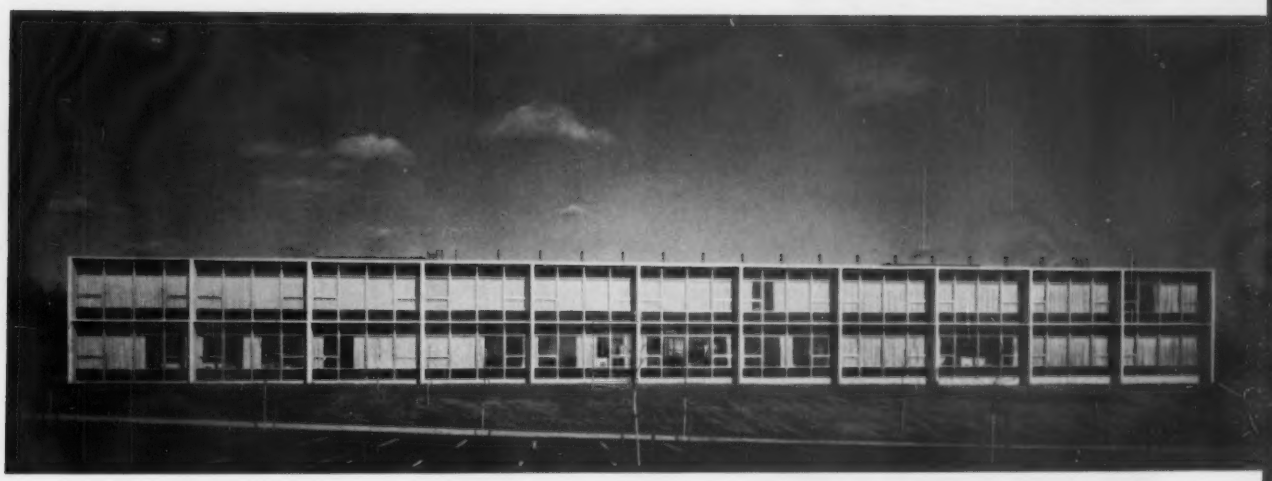
1 Stamford, Connecticut



FIRST FLOOR



SECOND FLOOR



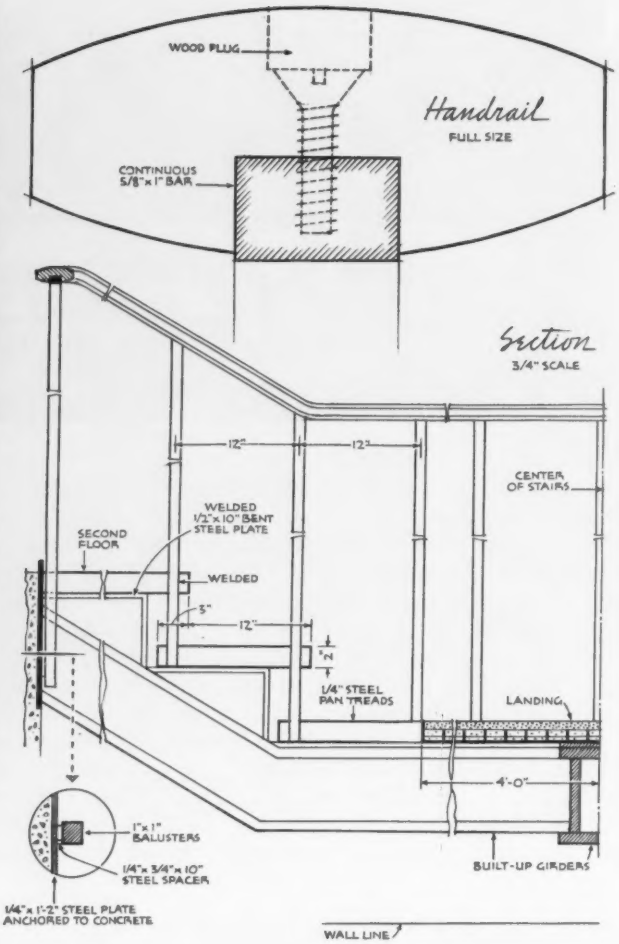
bility of use, and a carefully controlled interior environment were all-important, the mechanical and electrical systems were incorporated into the building's design at a very early stage. The planning process began with orientation and fenestration studies. On the basis of these, the two window walls were oriented north and south, and overhangs and exterior vertical baffles were so designed that they admit maximum daylight yet keep solar heat to a minimum.

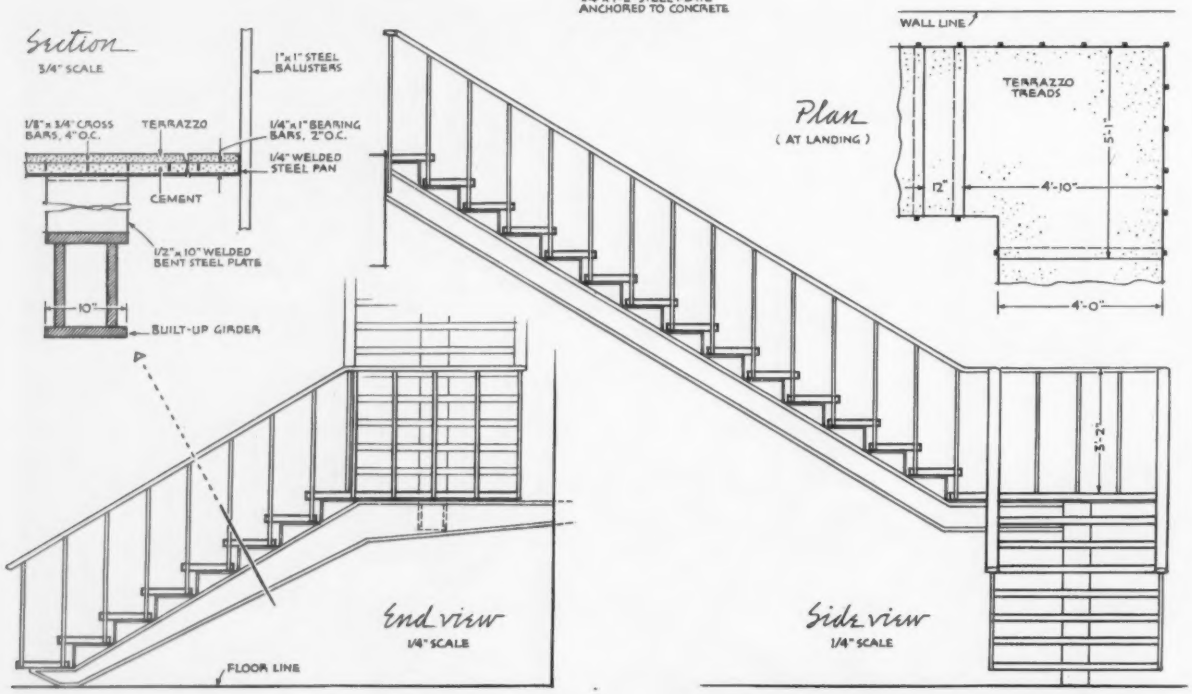
Heating and air conditioning are performed by a direct-fired air system. No boiler or heat piping is used anywhere in the building *(see also page 156)*. To maintain the stipulated high degree of plan flexibility, the entire ceiling acts as an air-distribution chamber. Offices can thus be shifted anywhere without the need for relocation of air diffusers and ductwork. A perimetrical air-supply system serves to eliminate drafts at windows. Plenum space and lighting system (a 4 ft wide, corrugated-plastic shield over fluorescent lamps) were closely integrated. Acoustical treatment has been obtained by sound-absorptive ceiling material in all but the luminous-ceiling portions and at the perforated air-distribution pans. "The entire ceiling," explain the architects, "was used for heating, lighting, sound control, and sprinkler piping—a close yet comfortable fit."

Rodgers Associates were the Interior Designers; Bye & Hermann, Landscape Architects; Robert Cronbach, Sculptor; Werner-Jensen & Korst, Structural Engineers; Bernard F. Greene, Mechanical Engineer; Deluca Construction Company, General Contractor.

stairway

ROBERT STANHAM

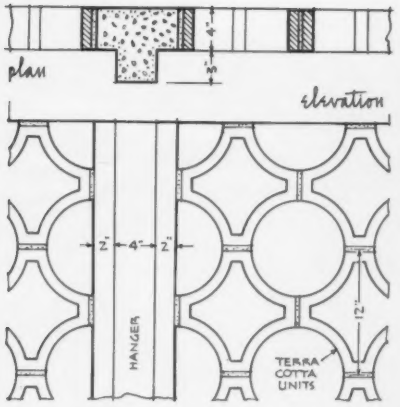




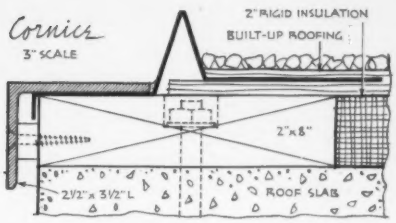
OFFICE HEADQUARTERS, Stamford, Connecticut

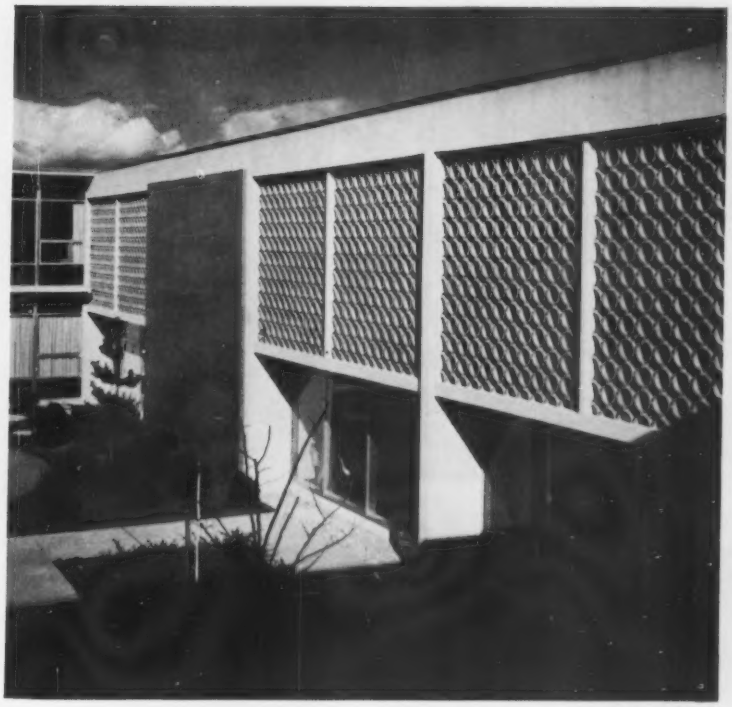
Sherwood, Mills & Smith, Architects

window wall

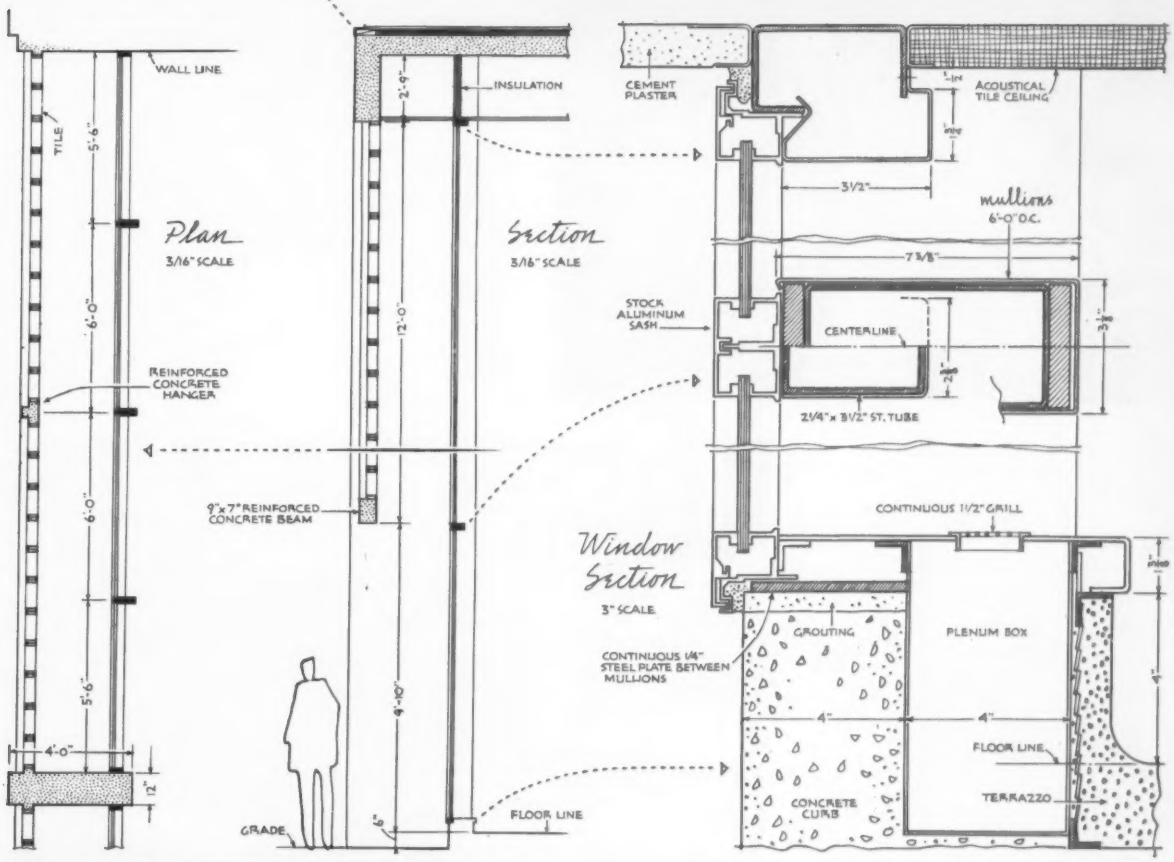


Sunscreen 3/4"SCALE





JOSEPH W. MOLITOR



OFFICE HEADQUARTERS, Stamford, Connecticut

Sherwood, Mills & Smith, Architects

1 Stamford, Connecticut

Office partitions in the general office areas (above) *are modular but non-structural and may be relocated, if necessary. However, partitions in the executive office area* (left *and* below) *are of permanent construction.*

Stairway in two-story lobby (below) *above the loggia. Sunscreen sculpture connects with executive offices directly visible through draperies of executive office* (right), *serves not only as decorative element but also reduces air-conditioning load.*

1 Stamford, Connecticut

Clyde Flackbert

related design fields: Sunscreen Sculpture

While the Dorr-Oliver Building was still in the preliminary planning stage, Sculptor Robert Cronbach was invited by the architects to study the possibilities of a sculptured screen. "The results of this study," writes the sculptor, "were embodied in a scale model of a section of the screen and a full-size sample in actual materials; and from these, the techniques of production, materials, working schedule and cost could be determined. It was important that I make the study at this early stage. By doing so, I could and did collaborate in deciding the treatment of a number of related areas. For example: the color and texture of the brick walls, the treatment of the mullions and opaque glass in the windows behind the screen, the size and placing of the screen itself in relation to the five entrance openings, and a number of other factors, all of which would greatly affect the success of the whole scheme.

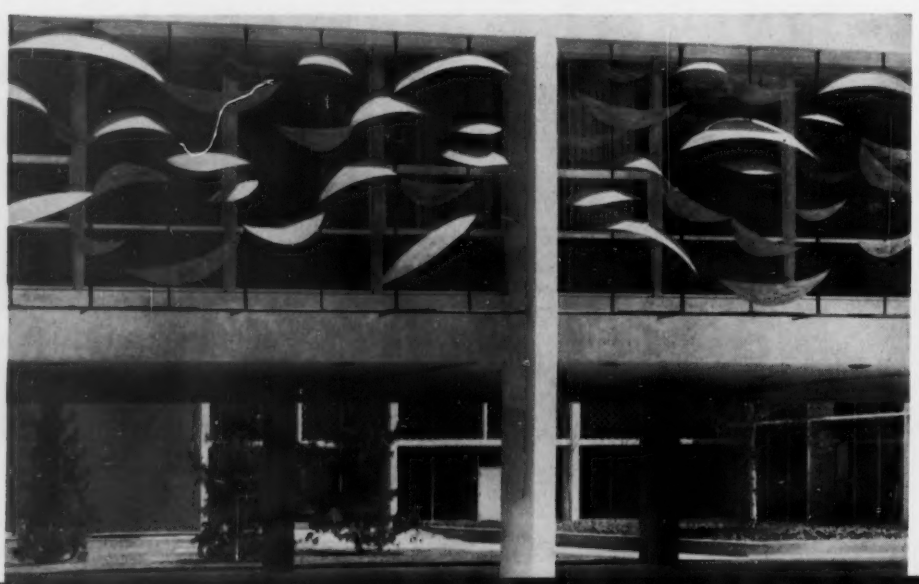
"In this respect there are two oversimple assumptions which are highly unrealistic. First, the artist does not change the architect's total concept of his building and it is foolish to assume that he is going to. Second, the architect cannot make a totally finished plan, then have the artist neatly fill the gap left for him, and still expect the artist to display much creative imagination."

Because of the great scale and inherent character of contemporary building, Cronbach feels, traditional handicraft methods are seldom suitable today. "A screen of this size—12 ft by 120 ft—is feasible only if simple and semi-industrial means of fabrication are employed. At the same time the process must allow for diversity of scale, richness of texture, and accurate control by the artist."

In this case the entire design was assembled of four basic units or "vanes" of varying sizes and asymmetrical shapes. These he has used in various combinations: grouped, singly, obverse, reverse, tipped toward and tipped away from the light.

Actual fabrication proceeded in the following way: a metal-working shop rough-cut all of the vanes and a texture was hammered on them by the artist. The shop then cut them accurately to pattern, welded a metal rod rim and bent them to the correct profile by means of rollers. Next, rectangular grids of seven vertical and two horizontal bronze pipes were fabricated and, following the scale model, the vanes were tack-welded into place. Numerous adjustments in placement and pitch were made by the artist during final, intensive study of the sculpture. The finished panels were then given a patina with copper nitrate, potassium sulphide, and a torch.

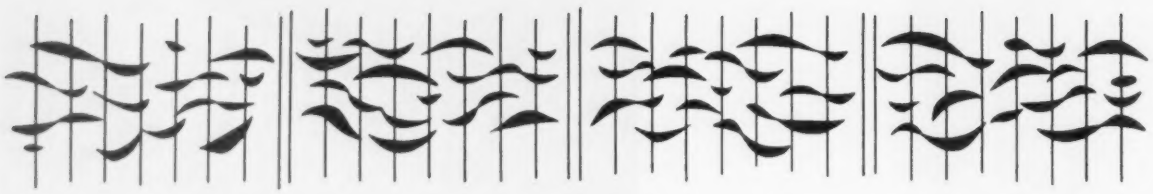
"There is both need and possibility for art in connection with contemporary architecture," writes Cronbach. "By 'art' I mean an object or section of the building which is more complex, intense, and directly expressive than any normally functioning part of the building. It may work in harmony or in contrast but in either case it should intensify and complete the meaning of the building."



Clyde Plackbert

Robert Stahman

1 Stamford, Connecticut



Sunscreen Sculpture reduces cooling load, duct sizes, and operating costs

Robert Cronbach's sculptured sunscreen, as well as the terra-cotta-tile screens at Dorr-Oliver, not only help to fill the "need . . . for art in connection with contemporary architecture," but also serve another primary function in helping to reduce the load of the air-conditioning system during summer operation. After the designs for the screens were completed, studies were made by Bernard F. Greene, Consulting Engineer, to determine their effect on the mechanical design and related equipment that would be required for the building.

On the east and west exposures, the solar altitude during August is an average 40 degrees in both morning and afternoon. During this period, the solar heat gain on a vertical surface is 162 Btu/sq ft/hr. With such low angles, horizontal overhangs—unless excessively deep—would not be an effective means of shading. As designed, however, the sunscreens provide both vertical and horizontal shading and have an effective shading factor of 48 percent.

By virtue of the sunscreens, the initial air-conditioning load is reduced by 19 tons. This saving, however, could not be reflected in the initial cost of the refrigeration system, since it would not result in a change to the next smallest size of equipment. Nevertheless, there was an initial savings in air quantity of 10,000 cfm. This allowed an initial savings in duct sizes of about $5200. There is also a savings in operating cost.

air conditioning

In this all-air system, mixed and fresh air is blown over a direct-fired warm-air furnace and/or cooling coils, then distributed to five, main, duct shafts *(plan acrosspage)*. At each shaft, the air is blended under control of local zone thermostats. Blended air in each zone is distributed through the ceiling and dropped into a ceiling space confined by the sides of the lighting fixtures. About eight percent of the ceiling is open for air distribution. Air is returned through a portion of the supply shaft. Complete diffused air coverage without conventional diffusers permits rearrangement of desks and partitions without changing the duct system.

electrical distribution

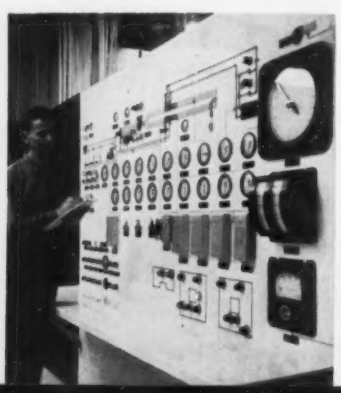
The 460/277-v supply is 3-phase, with a separate 208/120-v transformer having connections to the underfloor duct system. Large motors operate at 460-v and fluorescent lighting at 277. Lighting is built into the ceiling and co-ordinated with the heating zones and space modules. The 4-ft partial plastic ceiling on 12-ft centers affords good lighting distribution, low surface brightness, and low cost. With this over-all system of lighting and air distribution without diffusers, complete flexibility is obtained. The first cost was 43 percent less than a conventional installation.

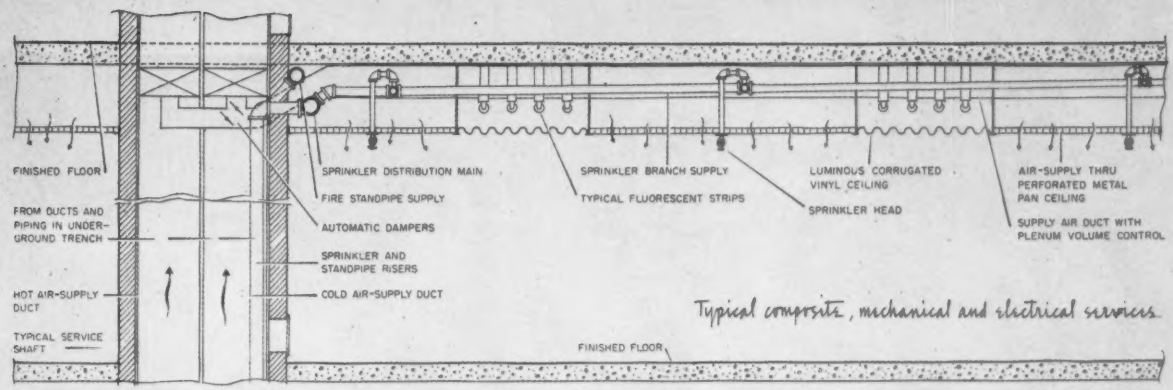
sprinklers/plumbing

Piping is distributed through return-air plenums, up through duct shafts, and then through the ceiling. Located at the duct shafts are water coolers, lighting panels, and coat closets.

control panel

A central, prewired, control panel *(below)* located at lower level contains all switches, relays, day/night clock, temperature indicators, and all electrical or pneumatic accessories. Temperature indicators are provided for hot ducts, cold ducts, outside air, chilled water, and condenser water. The panel also contains suitably labeled lights that indicate which zone is controlling during the night cycle. All fan start-up buttons (supply fan, refrigerating machine, and cooling tower) are likewise mounted on this panel.

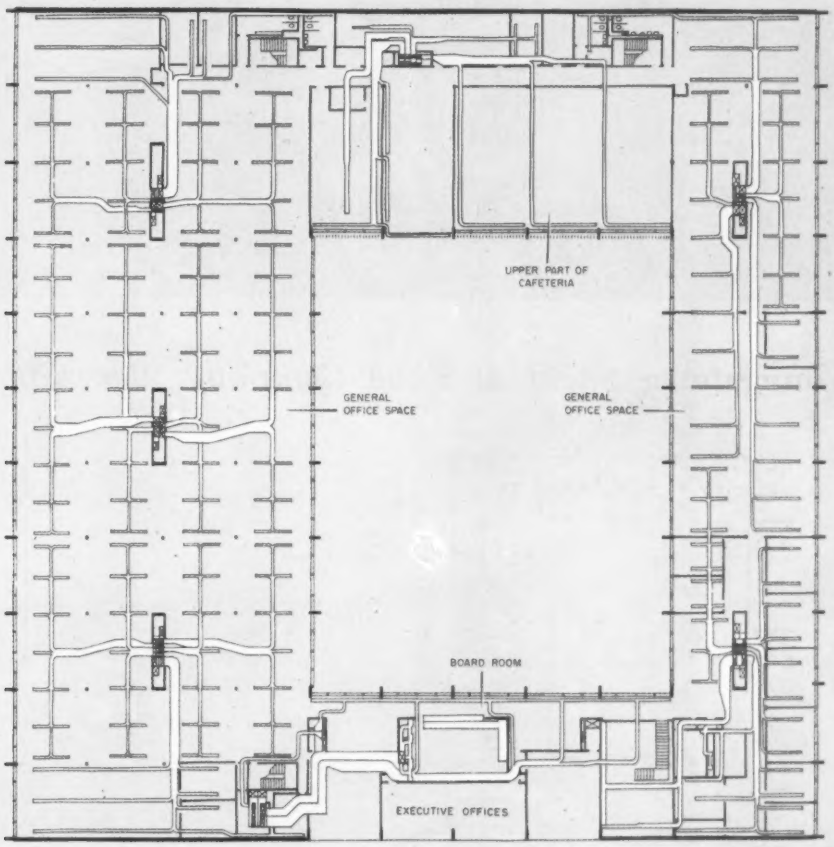




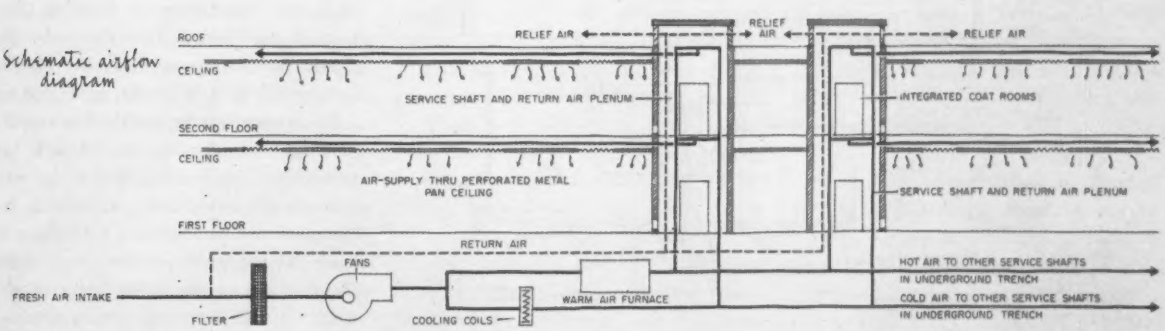
Typical composite, mechanical and electrical services

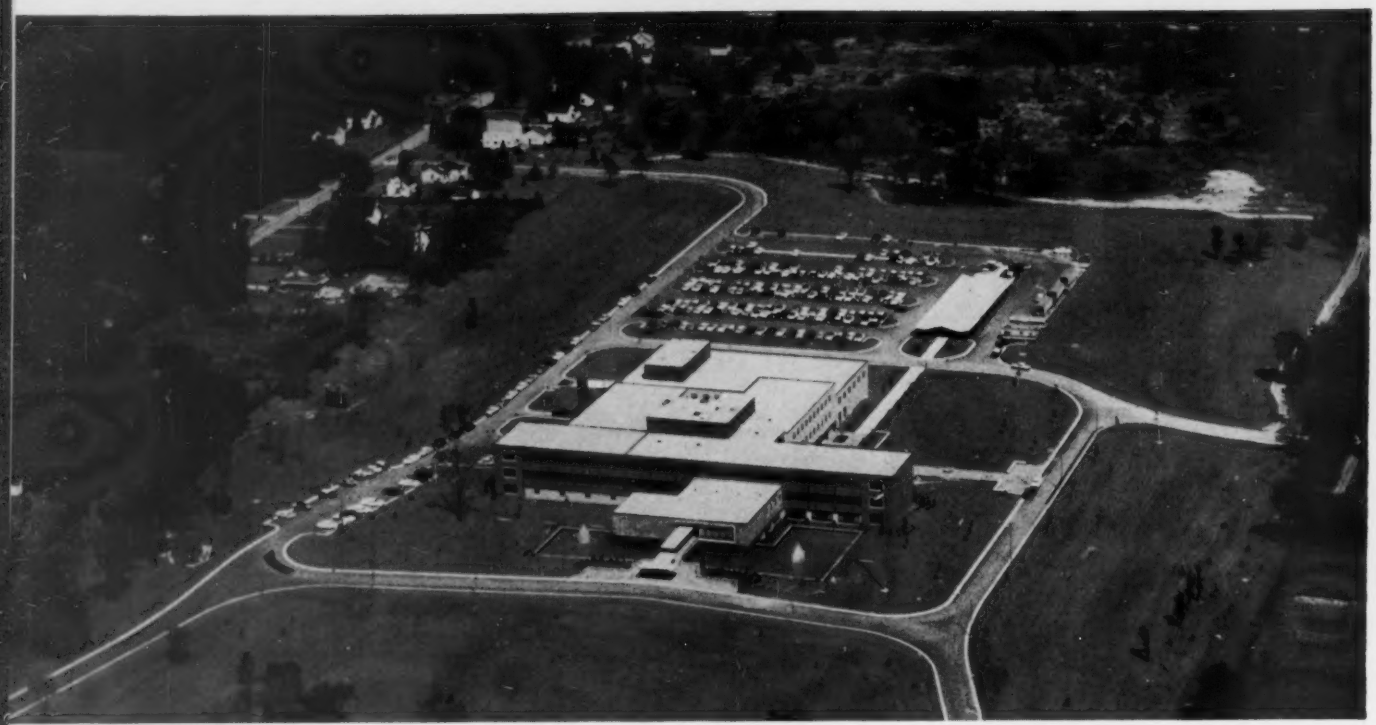
Duct diagram

2ND FLOOR CEILING

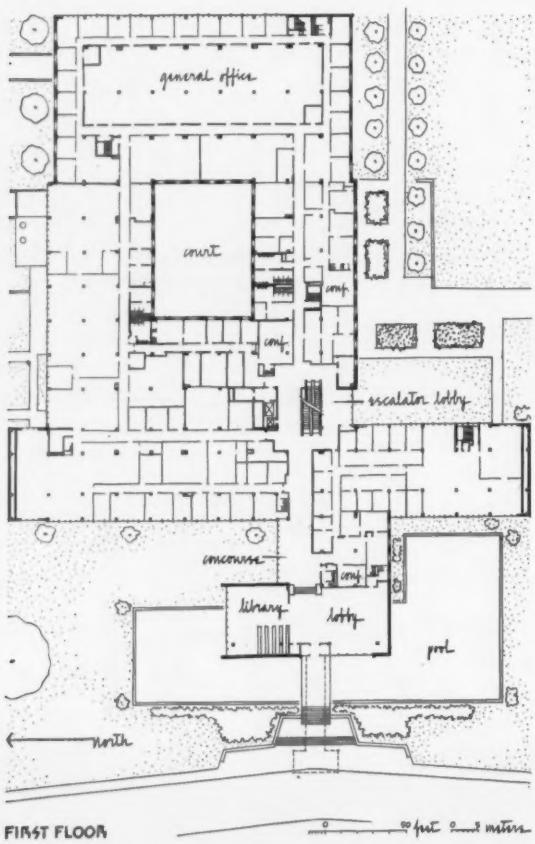


Schematic airflow diagram

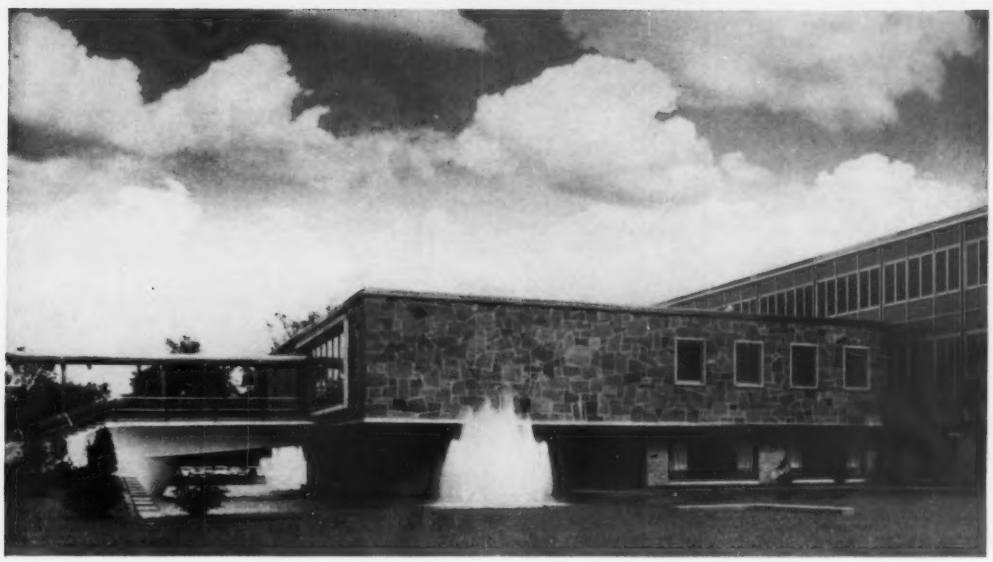




2 *Youngstown Sheet & Tube Company: Boardman, Ohio*



The new headquarters building for Youngstown Sheet & Tube Company, designed by Architects Garfield, Harris, Schafer, Flynn & Williams, is located on a 52-acre site in the midst of a rapidly growing suburban area. According to the architects, "the building was to be particularly attractive and comfortable for the employes, to offset any reluctance to leave the old public-square location for the new site seven miles south of the city." A marshy section, now drained and converted into a spacious lawn, de-



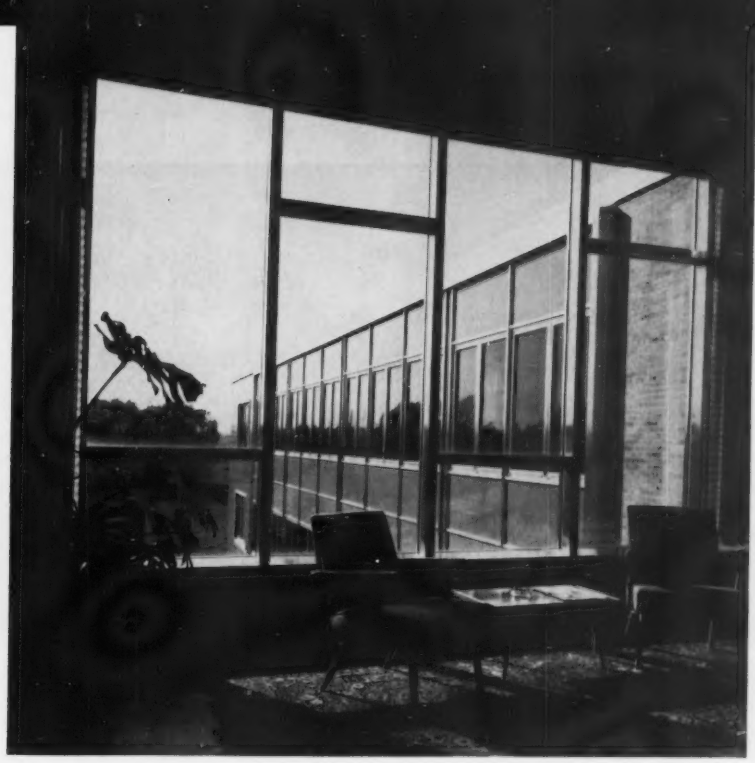
termined the placement of the building 600 ft back from the road. Drainage problems also ruled out inclusion of a basement. Thus service areas are at grade level; offices on two floors above. A ramped entrance drive and a series of stepped platforms form a bridge to the visitors' lobby on the middle floor level. Another entrance at grade level, to the south, is conveniently located in relation to a built-in garage, an open car shelter, and additional parking areas to the east of the property. This entry also serves as main approach to a 190-seat assembly room, a recreation and dining room—all at grade level. Escalators originating from this lobby connect with the two office floors. Structurally, the building is a steel frame using 21′x21′ bays (except at the visitors' lobby), and a cellular-metal-floor system. On the exterior, the architects have made use of curtain-wall panels as well as several masonry materials, such as Pennsylvania Blue Stone and a deep red glazed brick. Mechanically, year-round air conditioning is achieved by ten systems in five fan-room locations. These are double-duct systems with mixing boxes for each zone in the ceiling space. Return air is taken through the metal-tile ceiling into a ceiling plenum.

Partner-in-Charge of the project was Gilbert P. Schafer; James E. Sondles and Frank J. Schlosser were Associates; Barber, Magee & Hoffman, Structural Engineers; Byers, Urban, Klug & Pittenger, Mechanical-Electrical Engineers; The Heller-Murray Company, Contractor.

From visitors' lobby (above), *office areas are reached through concourse straight ahead; the waiting area is to the right, and the library* (acrosspage center) *is accessible through doors at the left. Flooring in this and other public circulation areas is of marble; carpeting has been specified in the seating areas; walls are paneled.*

Executive offices (right) *are on the top floor and are carpeted and wood paneled.*

Room (below) *serves as employes' recreation lounge at ground level.*



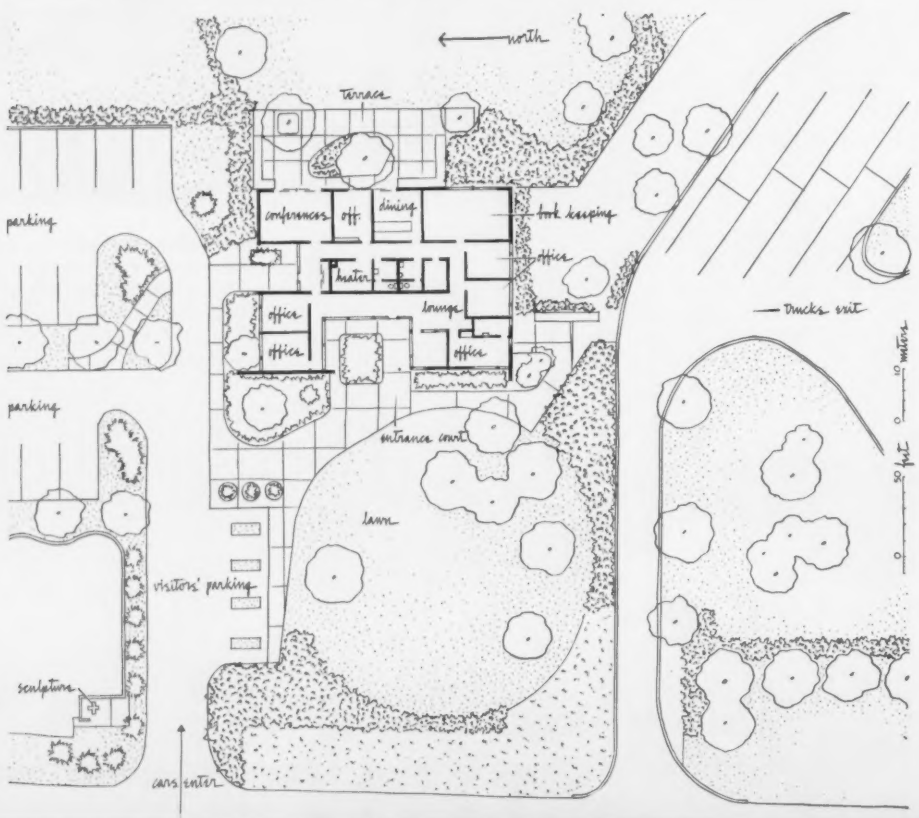
Waiting area (left) *in the escalator lobby of the executive floor has southern exposure and pleasant outlook. In the co-ordination of color schemes for the executive and public areas, Robert Boone of Irvin & Company, Decorators, collaborated with the architects.*

General-office areas (left) *employ steel office partitions and wall paneling; floors are surfaced with vinyl tile. In these areas the General Fireproofing Company served as interior consultants and suppliers of most of the office furnishings.*

3 *Sanford Brick & Tile Company: Colon, North Carolina*

Well away from the urban center, this office building by Architect Thomas T. Hayes, Jr. is the home office of a few key personnel. It overlooks adjacent brick-plant operations, and an important element of the plan is the shipping office and truck drivers' room in the southwest corner. Outside this space, and quite separate from other traffic lanes, is parking space for a number of large trucks. While the company's products—both the dark-brown brick and a patterned brick specially made to the architect's design—are naturally used, this usage is limited, as the owners specifically asked for a comfortable, attractive office building rather than a display of products. Basic plan organization is straightforward, with a core of service rooms, and offices, a conference room, and lounge-dining room on the periphery.

Of post-and-beam construction—3-in. pipe columns and laminated-wood beams on 8-ft centers—the building enclosure consists of either brick-cavity walls or double, insulating glazing. For purposes of articulation, the roof is separated from the masonry walls by a band of glass. The floor is a concrete slab on grade. Heating and air-conditioning system uses gas-fired hot and chilled water, with individual room controls. Browning & Landstreet, Mechanical Engineer; Lewis Clarke, Landscape Architect; Knoll Associates, Interiors; L. P. Cox Company, General Contractor.



Photos: Joseph W. Molitor

3 Colon, North Carolina

The building interiors have floors of terrazzo (corridors); rubber tile (offices); and ceramic tile (washrooms). The typical private office has one wall of brick; one of glass; the others of birch, walnut, or fir plywood. Ceilings throughout are of acoustical tile. Partitions have staggered studs with 2-in. blanket insulation. Interior spaces are lighted by plastic domes in the roof.

proposed design method for reinforced-concrete structures

by P. J. Carroll*

In this article, it is proposed that the usual Factor of Safety on the dead load be reduced in the design of reinforced-concrete structures. Although there would be higher stresses—but not excessive—in the steel and concrete, the author points out six primary advantages that would result.

When structures or structural members are being designed, the dead and live loads are added together to give the total design load. Design stresses are then chosen which are a certain fraction of the ultimate resistance—elastic or otherwise—of the structural materials to be used. This method of design is called the Factor of Safety Method and is the usual method adopted. It differs from the Load Safety Factor Method wherein the total load is multiplied by a certain factor to give the working load. The stresses taken are then the ultimate stresses of those materials. In one case, safety is ensured by adopting suitable design stresses, in the other by adopting suitable design loads. Both methods have their advantages. There is, however, one anomaly common to both—although this anomaly can be rectified more easily in the Load Factor Method than in the Factor of Safety Method.

This anomaly exists due to the fact that when the factors are chosen no distinction is made between dead loads and live loads. In other words the same uncertainty is assumed between the dead weight of the structure, or member, and the live load that it may have to bear. If a slab is designed for a live load of 100 psf, a dead load of 80 psf, and the Factor of Safety is 2.2 (that is 18,000 psi working stress for mild steel having an ultimate stress of 40,000 psi, provision is then made in this design for the live load to reach 220 psf while at the same time the dead load increases to 176 psf. Now this is a very poor estimation of the dead load. Provision should be made for some miscalculation of the dead load, but not to that extent. In reinforced-concrete structures where the dead load of the structure is often as great as—or greater than—the live load it is called on to bear, this factor assumes prime importance. Great economies could be achieved by having a lower factor of safety on the dead load than that on the live load. It is proposed that in the case of reinforced-concrete structures, the usual factor of 2.2 on the dead load be reduced to 1.5. The usual method of design by the Factor of Safety Method could then be followed by simply using a percentage of the actual dead load of 1.5/2.2, or 68 percent. This would mean that in the previous example instead of a total of 180 psf being used for design purposes, a load of $100+68\times80/100$ or 155 psf should be used. This gives a reduction of 25 psf on a total of 180, or a reduction of 14 percent—not an inconsiderable figure. This percentage saving would be greater where the ratio of dead to live load is higher. In the case of a dead to live load ratio of six, this saving would be approximately 25 percent. This reduction in dead load, however, has some disadvantages. These are:

1 Higher stresses in steel and concrete.
2 Increased deflection.
3 Increased cracking of concrete.

The increased steel stress "t" in the previous example would be: $t = 18{,}000\ (D+L/De+L)$; where D is the dead load, L is the live load, and De is the decreased dead load. Therefore, t = 20,900 psi, an amount that cannot be called excessive. It can be shown that for a D/L ratio as high as six, the steel stress will be less than 25,000 psi. The concrete stress will also be increased due to the decreased design dead load.

For a design stress of 750 psi in the concrete, and 25,000 psi in actual stress in the steel, the true concrete stress will be approximately 1050 psi.

The increased deflection due to a stress of approximately 25,000 psi in the steel would be of the order of 20 percent. This can be taken into account by cambering, etc., and has been dealt with fully in a paper to the Institution of Civil Engineers, London.†

The advantages of using this reduced dead load are as follows:

1 Considerable reduction in the amount of steel or concrete used.
2 Reduced amount of form work.
3 Reduced loads on foundations with consequent saving in excavation work.
4 Total height of structures is reduced with consequent saving in area of plastering, pipe runs, elevator heights, etc.
5 Reduced sizes of walls and columns allowing a greater useful area of floors.
6 Better esthetic design due to members of thinner section.

* *M. E., Dublin, Ireland.*

† *"The Factor of Safety as Applied to Reinforced-Concrete Design,"* Journal of Institution of Civil Engineers, *London, October, 1957.*

modern venetian blinds: function and anatomy

by Groff Conklin

Reportedly discovered by Marco Polo, venetian blinds have been a favorite sun-control method for centuries. Economical operation of today's comfort conditioning makes them more useful than ever.

With the phenomenal expansion of mechanical air conditioning for hot-weather comfort during the past 10 years, sun control at windows has become a matter of dollars and cents, rather than primarily one of comfort—as in the past. It costs money to buy and operate an air conditioner: and reducing the quantity of solar energy penetrating the windows with reflective metal-slat venetian blinds is one of the dramatic ways of cutting those costs.

While heat control is economically the most troublesome of the problems connected with the design of building openings, three others are almost as important in every way except financial: daylighting and glare control, privacy, and, in non-air-conditioned buildings, air circulation. These problems are also more effectively controlled by venetian blinds than by any other single window treatment.

The basic difficulty in designing windows is in arriving at a compromise between completely exposed openings, subject to all the violence of the sun's heat and the glare of its rays as well as to the prying eyes of outsiders, and a plain blank wall. An ideal window would permit no radiant heat to enter in the summer, maximum heat in the winter. It would diffuse light evenly throughout the room, eliminating glare and giving a comfortable level of illumination in all parts. It would permit people to see out, keep people outdoors from looking in, and with all that provide gentle air circulation whenever needed. Such a window does not exist. However, venetian blinds, properly designed and used, will control these factors more effectively than any other window treatment, indoor or out.

radiant-heat control

No matter how elaborate an exterior sun-control device, some additional treatment of the inside of a window is almost always necessary. An overhang that will reduce sun load adequately during the hottest summer days, also reduces natural illumination so much that artificial light, adding its own sizeable quantity of heat to the cooling load, often is required. Such an overhang also bars much of the sun's warmth in cold weather, when it is needed in the room. According to a recent study,[1] an opening four ft high in the south wall of an Atlanta building would need an overhang 14 ft wide, if it were to be completely shaded at all times of the year. This is an economic and esthetic impossibility in almost every type of building. In the case of east and west walls, overhangs must approach infinity in width to achieve satisfactory shading during early morning and late afternoon.

Of course, both exterior sun-control devices and interior shading are advisable for the most effective solution of the problem of solar-radiation penetration. But, if only one method can be used, the venetian blind is the obvious method of choice, both from the point of view of economy and that of flexibility.

When compared with other types of indoor window treatments, venetians are likewise highest in over-all efficiency (*Table I*). Roller shades, when completely covering the windows, do reduce instantaneous solar-heat gain considerably, but at the cost of all the ventilation and most of the light. As for opaque draperies, they are so completely unsatisfactory for sun control, that no responsible architect would ever specify them for that purpose. Venetians should be used to manage the sun and dress the window, while draperies can be added to soften the frame. Indeed, venetians with slats set at 45 degrees over the whole window keep out a maximum of the sun's radiant heat, and make it possible to keep the window open, thus giving good air circulation. An even, diffuse light is also achieved with venetians in this position.

Heat-absorbing glass excludes about the same amount of heat as an aluminum venetian with slats set at 45 degrees, but exerts no control at all over elements of privacy or air circulation. In actual practice, venetians are almost always used *in addition* to such glass in commercial buildings: without them, working or living conditions are usually too uncomfortable for the average person.

There is some reason to doubt that heat-absorbing glass in combination with venetian blinds saves enough heat to make the added cost of the glass worthwhile. In 1953, G. V. Parmelee and D. J. Vild presented a paper at the semiannual meeting of the American Society of Heating and Air Conditioning Engineers entitled "Design Data for Slat-Type Sun Shades for Use in Load Estimating." The paper was published in the ASHVE Journal Section of *Heating, Piping and Air Conditioning*. This paper gives a "shade factor" for white, ivory or cream venetians, slats at 45 degrees, window glass common, of 0.56 for a stipulated hour, day, and latitude. For an identical situation substituting heat-absorbing plate for common glass, the "shade factor" was reduced by only 0.001—from 0.56 to 0.55. In an actual example given in this paper, the total instantaneous rate of heat gain in the common window glass example, western orientation, was 134.8 Btu/hr.

[1] *Sunshade Study, Months of October Through April.* Roy A. Martin Company, Atlanta, 1954.

For the identical situation, changing only the glass from common to heat absorbing, the gain dropped to 132.8 Btu/hr. A saving of two Btu/hr seems hardly enough to warrant the much higher cost of the heat-absorbing glass. Venetians do most of the job themselves. Incidentally, the total gain for the window *with no shading* is given as 225 Btu/hr. For thoroughly satisfactory reductions in instantaneous heat gain, exterior sun-control devices are needed, in addition to the venetians.

glare control

Scientific daylighting is also most easily and efficiently achieved with venetian blinds. A study made by Faber Birren in an eastern school shows some of the remarkable results of using venetians properly for such control.[4] Footcandle measurements are shown (*Table II*) for an unshaded window, compared with the same window with conventional semi-opaque shades and with venetian blinds with slats adjusted to effect a maximum reflection of sunlight—but with all direct glare blocked out. According to the Illumination Engineering Society, *minimum* footcandles for schoolroom lighting levels range from 40 ft-c for normal seeing to 150 ft-c for very close work, and for students requiring lip reading. Thus, the venetian-blind installation shown (*last line Table II*) distributes and softens the light well within the recommended intensity levels except immediately in front of the window, where a corridor or passageway usually is left for students to walk to the back of the room.

In a separate study involving schoolrooms with glass block above and regular strip windows below,[6] for the wall in

[4] *Report on the Flexalum Code for the Functional Co-ordination of Light and Color.* Faber Birren & Company, 1952.

[6] *Technical Report on Illumination Measurements to Determine the Effects of Interior Venetian Blinds Used Over a Glass Block Fenestration.* Roy A Martin Company, Atlanta, Georgia, 1952.

TABLE I: Heat gain, west window, August 1, 40° latitude, 3/16" window glass and wood sash.[2] Gain in Btu/sq ft and percent of total solar radiation.

Sun time	Solar radiation on window	Unshaded one light		Aluminum venetian blind, slats 45°		Roller shade, dark green, half drawn[3]		Single light heat-absorbing glass, unshaded	
	Btu	Btu	percent	Btu	percent	Btu	percent	Btu	percent
9-10	22	4.0	18.3	5.3	24.0	6.8	30.7	3.3	14.8
10-11	24	10.5	43.7	6.3	26.4	10.0	41.7	7.4	30.7
11-12	25	15.5	62.1	7.1	28.2	15.1	60.4	8.3	33.0
12-1	60	39.8	66.4	20.7	34.5	38.8	64.6	26.6	44.3
1-2	123	88.4	71.9	55.3	45.0	83.9	68.2	57.9	47.1
2-3	180	153.0	85.0	106.2	59.0	144.4	80.2	104.6	58.1
3-4	206	175.5	85.2	136.0	66.0	166.0	80.6	120.1	58.3
4-5	186	165.9	89.2	133.9	72.0	153.5	82.5	113.8	61.2
5-6	120	123.0	102.5	98.4	82.0	115.2	96.0	84.0	70.0
6-7	40	43.9	109.7	36.4	91.0	46.0	115.0	32.8	82.0

[2] Table adapted from Houghten and Shore, "Heat Gain Through Western Windows With and Without Shading," Transactions of the American Society of Heating and Ventilating Engineers, Vol. 47, 1941.

[3] Shade half-drawn to provide illumination level approximately like that of a venetian with slats at 45°, and also to simulate conditions were window half open for ventilation. A somewhat parallel study of an east wall window during the morning hours, when the sun was on the surface, was made in 1951 by Georgia Institute of Technology State Engineering Experiment Station, with shade fully drawn. With the window closed, the shade lowered room temperatures about 10 F below that of the room unshaded; white venetians with slats at 45° lowered the temperature around 5 F. Of course, the unventilated room was uninhabitable in either case; the temperature at noon ranged from 112 F for the shade to 118 F for the venetian, and was 123 F unshaded. But with the window half open to provide ventilation, shade fully drawn, venetians with slats at 45°, the temperatures were: unshaded, 91.8 F; shaded as described, 91.0 F. Thus, even when the shade was fully drawn, cutting out air from the open window, the temperature was still the same as with venetians with 45° slats and good ventilation. See GIT Report on Project 189-133, December 1, 1951. G. C.

TABLE II:
Summary of footcandle measurements, aluminum venetian blinds vs. semi-opaque window shades, south exposure, noon on September 20, 1952.[5]

Window treatment	Front of window	Center of room	Rear of room
Full window opening	440 ft-c	50 ft-c	32 ft-c
Conventional shades half down	430	30	22
Conventional shades fully down	25	16	12
Venetian blinds half down, 45°	430	42	36
Venetian blinds fully down, 45°	170	48	43

[5] Faber Birren & Company.

direct sunlight, the distribution of light ranged from 190 ft-c nearest the window to 40 at the rear, with no protection on either window or glass block. With venetian blinds over both sections, horizontal slats over the glass block and 45 degrees over the windows, the illumination levels ranged from 90 ft-c at the front of the room to 40 at the rear—an ideal, glare-free light for a schoolroom.

There is, of course, no ideal illumination level for best seeing, due not only to the adaptability of each individual's eyes, but also to the fact that different people are happy with quite a wide difference in levels of light. Nevertheless, the maximum and minimum levels indicated are well within the limits set by the IES. And, it is obvious that venetian blinds are the only sort of window treatment with which these levels can be flexibly maintained in all kinds of weather. (The blinds would be normally raised to the top on cloudy days.)

privacy and air circulation

There is little need to expatiate on the merits of venetian blinds as against other forms of window covering as they affect these two factors. For privacy, no other form of control exists that can at one time provide ample air circulation and safe levels of illumination. And, vice versa, no other form of window treatment gives adequate air circulation and lighting levels, while at the same time offering any real privacy. External treatments such as vertical sunshades often cut off the breeze when it is most needed, and have no value as privacy guards. The same is true of certain types of overhangs, such as awnings. Only venetians with their multiple air-admitting slits-between-slats can do both jobs effectively.

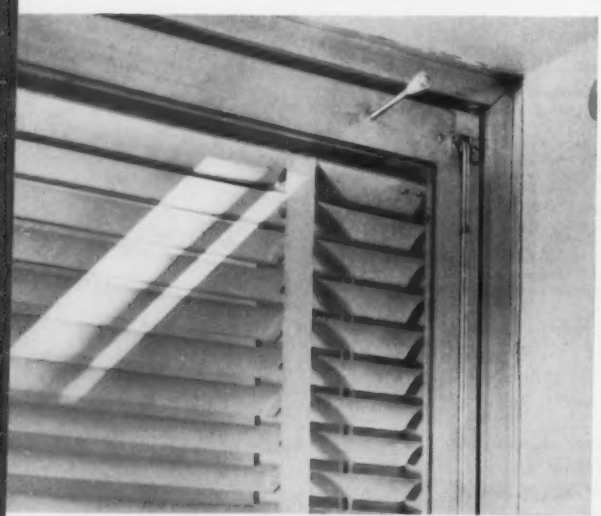
So much for the function of venetian blinds in improving livability and reducing cooling loads. The next question is: what is the anatomy of the modern venetian blind?

venetian-blind anatomy

The development of today's venetian blind has been a long and gradual process, from the time when, according to legend, Marco Polo is said to have brought some prototypes back to his home city from one of his Eastern voyages. It is reported that their first practical use in Venice was in the windows of the counting houses of wealthy men, who by their use obtained enough interior illumination to work without letting a passing tax collector see how much money they had!

So much for legend. It is no legend that wood-slat blinds were common in this country before the Revolution, as the carefully reconstructed houses and public buildings in Williamsburg, Virginia, prove. Many of them have handsome natural-finish wood venetians. Since those days, modern technology has wrought something of a revolution in blind design: and today's metal units, with their almost indestructible concave aluminum or steel slats, their durable steel top and bottom rails, and their simple and foolproof tilting and raising mechanisms, are as far ahead of those early progenitors as today's airplane is ahead of the Wrights' flying machine.

Contemporary venetian blinds are of two major varieties: the traditional horizontal units with 2″ to 2½″ slats; these still comprise well over 90 percent of the market. The other is the vertical type, with metal, cloth, or plastic slats anywhere from 2″ to 8″ and more wide; these are used primarily in nonresidential buildings, although some modern homes are using them in place of draperies at large window openings, or as room dividers. Vertical venetians differ in many



At the Imperial Oil Headquarters in Toronto, venetian blinds hung between outer and inner frames of double-window units are thus protected from dust or film deposits. Blinds may be raised or tilted by control cord strung through inner frame. Ports in windows allow passage of air and prevent condensation.

Photos: Gordon Rice, Ltd.

respects from the horizontal type, as will be seen later in this article. In general, they are not as functional as the horizontal variety.

A word of warning: typical architects' specifications only too often ask simply for blinds, or at the most require "aluminum." This over-all specification may well defeat what the architect had in mind in designing his window treatments, due to the large variation in quality of blind components. Each component should be specifically described; otherwise the blinds may come furnished with low-priced tapes with a relatively short life, and with too-wide ladder spacings which result in poor overlap of slats and inadequate performance.

Slats. Venetian-blind slats are made of aluminum, steel, and wood, with plastic materials still in an experimental stage. The overwhelming preponderance of quality horizontal slats are of special, springy aluminum alloys, available either in simple concave form (usually 2″ wide) or in a shallow "S" shape (2½″). The best quality slats are approximately 0.010″ thick before painting; the finish adds roughly 0.001″ to 0.002″ of thickness. This finish consists, of a thin baked-plastic finish coat; in subtropical areas with salt-water exposure a catalytic undercoat is often used. The slats are washable, and proof against chipping, cracking, and warping. It is almost impossible to make a permanent bend in one of them in ordinary use.[7]

Lower in cost are the 0.007″-0.008″ aluminum slats. These are sometimes used in light-duty installations such as houses and apartments. However, for offices, factories, schools, hospitals, and other heavy-duty installations, the heavier slat should always be specified. It can much better withstand constant and often careless handling.

Steel slats, which weigh up to three times as much as aluminum for equal thickness, and, in the somewhat thinner gage often used for slats, from two to two and a half times as much, are less expensive. Architects should consider the extra weight of the steel slats when specifying blinds; it may be a factor when unusually wide installations are necessary. Steel is, however, the usual material for the "S" blind, with its 2½″ slat. About nine fewer slats are required for each 4½′ of ladder, and the weight is thus reduced. Aluminum "S" slats can be also obtained, however.

[7] *Government performance standards for slats and other venetian-blind parts are outlined in Federal Specification AA-V-200 (1956).* Venetian Blinds, *U.S. Gov't Printing Office, Washington 25, D.C., 10¢ per copy.*

Slat finishes vary from the standard white or eggsheli, all the way through the color spectrum, and from glossy to mat. The selection of finish and color will depend on the use to which the blind is to be put: high-reflectance, light-colored slats should be chosen when the blind's function is to keep out light and reduce glare while still providing a high illumination level. Mat finish and dark-colored slats, and slats with decorative designs printed on them—they are now available in everything from simulated linen finishes to elaborate leaf and star patterns—are suitable primarily for houses and apartments, hotels and motels, and special areas in public buildings and commercial structures which require the added esthetic appeal of a decorated blind.

Wood slats have become something of a rarity today. Custom manufacturers report that less than 10 percent of their work involves this type. The primary reason is their higher price. The metal slat, which first appeared in primitive form less than 20 years ago, has been so improved and lowered in price that it is pre-

Venetian blinds are frequently used to hide or obscure such elements as glaring windows, radiators, or air conditioners located in window walls. Gerald Luss, of Designs for Business, has hung here 15′-wide, metal-slat venetians from a 10′ ceiling; aluminum mullion strips conceal the tapes.

ferred for every use except in occasional luxury residences, and other buildings whose owners nostalgically desire the antique effect of wood and can afford it. For wood slats not only cost more originally, but they also require repainting from time to time. Metal slats are washable. Furthermore, some wood slats tend to warp, crack, and peel, particularly today when it is difficult to obtain properly cured wood for their manufacture.

Experiments have been made with plastic slats, both translucent and opaque, but thus far they have won almost no acceptance. Furthermore, the translucent slat is functionally self-defeating as a means of barring daytime heat and of assuring nighttime privacy. Shadows inside the room are easily seen in the outdoor dark.

Tapes. The older standard materials for venetian-blind tapes was a strong woven cotton. However, tapes made from woven nylon, or nylon, rayon, and cotton mixtures, are gaining in acceptance, while the reinforced plastic tapes now are actually standard on the better quality blinds. This is because of their great durability—they are guaranteed for one to five years—plus the fact that, like metal slats, they can be cleaned with a damp cloth and do not have to be laundered. Tapes are available in as many colors and patterns as slats. A unified appearance can thus be obtained, without the sharp vertical lines the older tapes used to create. Tape ladders, which support the slats, are considerably stronger in the plastic tape than in the older woven type, since the plastic ladders are heat-welded to the tape, rather than stitched. By actual test, these tapes tear across (with very great effort!) before they separate at the seam. In other words, they are amazingly strong.

Some nonreinforced-plastic tapes are on the market; it is important to avoid using them, since they have a definite tendency to stretch.

Cords. Today, venetian-blind cords are almost universally made from 3 to 5 percent nylon or cotton with no less than 175-lb breaking strength. They are available in as many colors as the slats, and come with molded-plastic tassels in an equal variety of colors.

Experiments with solid-plastic cords have been abandoned for the same reason that nonreinforced-plastic tapes have been dropped: such cords stretch, and usually cannot meet the strength specifications established by the Federal Government.

Top and Bottom Rails. These are channels of 0.020″-0.025″ steel encasing the operating mechanism of the blinds at the top, and rails of the same gage to conceal the cord and tape at the bottom. The once-standard wood bottom and top rails are no longer available except with wood venetians and some very inexpensive metal types. The modern cold-rolled rails are fabricated much more accurately, and, of course, are considerably stronger and less easily damaged than the older varieties. Furthermore, they are more compact, and therefore neater. They are so designed that the important parts of the operating hardware either snap or screw into place, allowing for easy replacement if a piece of the hardware is damaged.

Hardware. The operating mechanisms of modern venetian blinds constitute an outstanding example of technical advance. At one time, not so long ago, almost every blind had custom-made hardware, and in some instances the parts were not interchangeable even between different blinds made by the same manufacturer.

Today, these items are, if they serve the same purpose, universally interchangeable within one manufacturer's line. Each line, however, has some components that are individual to it.

Quality venetian-blind hardware is for the most part made from steel, though the gears usually are made of brass or bronze, and pulleys are made of either lignum vitae or nylon, or "their equal in strength and self-lubricating properties," as the specifications put it.

A useful result of the standardization of hardware and top rails is the fact that all controls can now be "ganged" at one or the other side of a blind, in the center, or off-center at any point. They can even be remotely controlled by a system of added pulleys.

A number of types of special hardware are available for unusual applications. Sill hold-downs can be obtained; these are used to anchor the bottom rail of the blind and keep the unit from swaying when the window is open. Another special item is an ingenious clip that makes it possible to tilt a portion of the slats while leaving the others at "open" or "closed" position. This clip would be useful, for example, in managing the venetians in the classroom with glass block above strip windows that was previously discussed.

special-purpose venetians

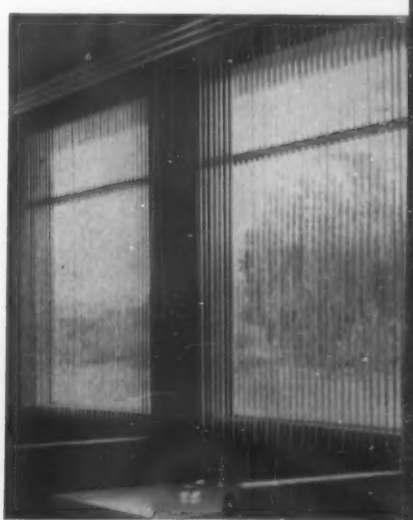
Venetian blinds have been adapted for certain special purposes in recent years. The first is an audio-visual blind, which makes possible the blacking out of light at the sides, and is widely used in rooms where motion pictures and slides are being shown. The second is a so-called "detention room" blind; it is installed in hospitals and mental institutions wherever it is important that patients not be able to reach exposed cords. The skylight blind is the third special design. This provides light control at overhead skylights, domes, and sawtooth windows. Tilting this overhead blind is done with a regular window pole, and tilt cords are eliminated. A fourth type of special blind simply adds a universal coupling to a series of blinds, in a straight line or, if desired, in a bay installation. This coupling makes it possible to tilt a whole series of blinds with one tilt cord.

Motors are used to handle exceptionally large blinds, or blinds that are so far overhead that they cannot be reached by window poles. An outstanding example of a motorized blind is the 88′x18′ unit in the R.C.A. Exhibit Hall in New York's Radio City.

vertical venetian blinds

Relatively new on the market are venetian blind adaptations that are installed vertically, both as window treatments and as room dividers. There is somewhat more variety in slat materials with these blinds than with the horizontal type; metal, wood, plastic, and cloth are all available, and in a wider range of widths, from 2″ to 8″ and over. Special hardware is needed to provide drawback and lateral tilting. The operating mechanisms are more complicated than for a standard horizontal venetian. Instead of the usual bottom rails, many vertical venetians have links or metal chains holding them more or less in place, though one or two types do have a metal track to hold the slats in place at the bottom.

Verticals are architecturally fashionable today, with their strong upright lines; however, they require constant manual adjustment or clock operators to move them as the sun moves across the heavens.



Vertical venetian blinds—which may have metal, cloth, or plastic slats varying in width from 2″ to 8″—are used primarily in nonresidential buildings.

At Mile High Center (acrosspage), Denver, venetians became an integral part of the design of the building's exterior—with special attention being given to size and color.

Photo: Ezra Stoller

seamless-roll terne roofing

by Thomas J. Boyd*

This roofing material—developed over 200 years ago—is enjoying renewed favor in contemporary architecture. By a relatively new manufacturing process, terne is now available in 50-ft seamless rolls which allow more rapid installation and reduced construction costs.

Architectural development in every age is dependent upon two major factors, the quality of contemporary design and the quality of materials available for practical use. From the standpoint of materials, our era is rich in new products, and, in the constant reappraisal and redevelopment of traditional products, there are many that are entering new periods of use and importance.

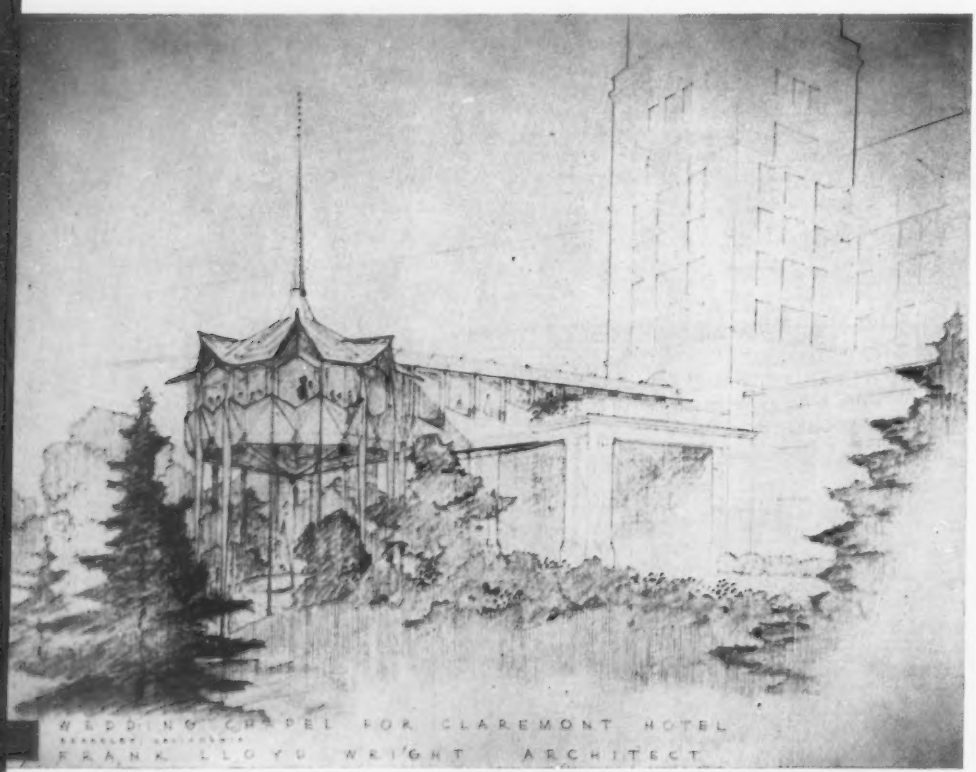
One such material is terne, originally developed in Wales shortly after the first manufacture of tin plate in 1720. An alloy of 80 percent lead and 20 percent tin on a base of copper-bearing/cold-rolled steel, terne became widely accepted in America during the 19th Century for roofing on private homes, public buildings, and factories.

*Chief of Quality Control, Follansbee Steel Corporation.

With the significant and far-reaching changes in contemporary architecture since the war, terne's adaptability to functional design has made it an important element in the work of many outstanding architects.

contemporary installations

Frank Lloyd Wright has endorsed terne verbally and through imaginative use. He has said: "Because of its inherent adaptability in both form and color, terne permits the visible roof area to become a significant part of structural design." His Dobkins residence, at North Canton, Ohio, utilizes terne in a Bermuda-type/horizontal-seam construction. Two forthcoming Wright projects also evidence his appreciation of its qualities: one, the terne roof for the Fasbender Clinic in Hastings, Minnesota, features



To roof his pagodalike Wedding Chapel at the Claremont Hotel, Berkeley, California, Frank Lloyd Wright specified terne "because of its inherent adaptability in both form and color."

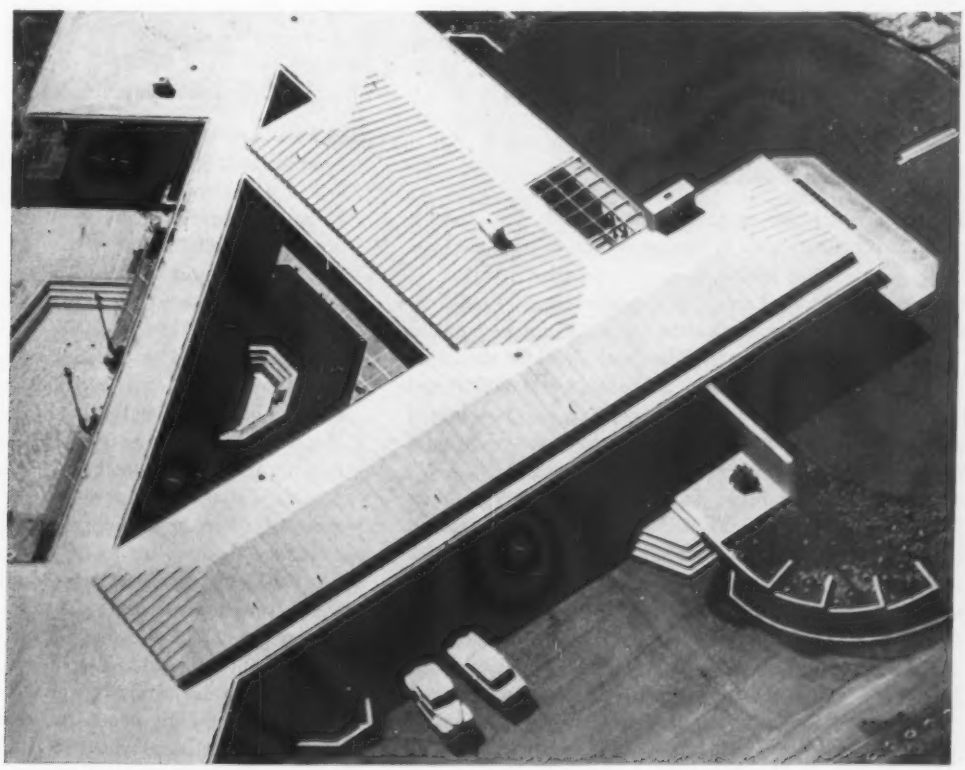
a deep, all-around overhang for an effect of massive continuity and strength; the other, the Wedding Chapel of the Claremont Hotel in Berkeley, California, shows an entirely different use of terne to create a contemporary pagodalike feeling of lightness, airiness, and grace.

Georgia Tech's Alexander Memorial Center, designed by Aeck Associates of Atlanta, boasts a 270′ dome composed of 32 arched ribs enclosed by terne metal over wood-chip-cement sheathing.[1] At Worcester, Pennsylvania, Charles M. Talley's Central Schwenkfelder Church demonstrates terne's decorative and functional possibilities for a religious structure.

Among recent residential buildings that utilize terne

Architects Anshen & Allen chose a batten-type roof for their design of the Gavello house, Sunnyvale, California. Exterior roof composition is 30-gage, 40-lb terne roofing over 2″x2″ battens—spaced 2′-2″ o.c.—and ½″ plywood sheathing.

The Philbrook house, Los Altos, California, designed by Architect Paul J. Huston, has a standing-seam roof of 30-gage, 40-lb terne.



[1] August 1957 P/A.

TABLE I

	Lineal expansion per 100 ft per 100 F
Wood	0.331 in.
Slate	0.696 in.
Terne	0.825 in.
Copper	1.064 in.
Aluminum	1.536 in.
Lead	1.908 in.
Zinc	2.076 in.

roofing are two California installations—Anshen & Allen's Gavello house in Sunnyvale, and Paul J. Huston's Philbrook home in Los Altos.

historical examples

Many 19th Century terne roofs are still extant and in fine condition on historic structures throughout the country. The terne roof finished in 1835 on Andrew Jackson's Hermitage, in Tennessee, remains in service more than a century later; while that on The Octagon in Washington, D.C.—headquarters of the AIA—was installed around 1870 and appears to be good for decades more. A still earlier example is the John Pierpont house in New Haven, Connecticut, one of the finest examples of 18th Century domestic architecture. Remodeled some years ago as a home for the Faculty Club of Yale University, its original terne roof was found to be in excellent condition, requiring no replacement.

roll sizes and properties

Terne's primary values today are twofold: its superior physical properties and its design potential, both contributing greatly to its usefulness for the creative architect. It is now manufactured by a new process in 50-lineal-foot seamless rolls in varying widths up to 28″ for easier handling on the job, and in standard-size fire-door sheets, as specified by fire underwriters. Since this metal is also used for drainage products and weathersealing, and is accepted as the standard in many areas throughout the country, it is produced in seamless rolls in widths as narrow as 4″, as well as in sheet form. Known and used originally as "valley tin" and "roofer's tin," terne is still in demand for valley and flashing work on all types of roofs, for flashing doors and windows, and as termite shields. It also offers an answer to drainage problems presented by low-pitched roofs characteristic of many of today's homes.

A unique property of terne is its low co-efficient of expansion—the lowest of all metallic roofing materials—which permits the use of longer lengths without expansion joints (*Table I.*)

Its ductility and strength, which virtually eliminate the need for repairs after initial installation, are significant considerations. It will not crack due to climatic changes.

roof types

The extensive range of possible seam constructions, both alone and in combination, provides the architect with an opportunity to create varied linear and shadowy effects. There are four basic types of terne roofs, the variations resulting from the manner in which the strips are formed and joined together. When the pitch exceeds 2½″ per foot, the architect has the choice of all four types or any combination of the four. When the pitch is less than 2½″ per foot, the flat-lock seam should be used. Regardless of the type of seam construction, all terne-roof construction must be made over wood sheathing of good quality. Tar paper, or other paper containing acid must not be used.

1 The standing-seam roof is produced by making a vertical bend on both sides of the sheet to form 1″-high double-locked unsoldered seams. The spacing on standard applications is governed by the widths of metal available, giving the architect the choice of approximately 11″, 18″, and 22″ widths.
2 Ribbed- or battened-type roofs have vertical battens ranging from 1″ to 4″ high, and 2″ to 4″ in width. Battens are nailed to the sheathing and the terne-metal strips cover both sheathing and battens. The spacing between battens normally should not exeed 24″ in width.
3 Horizontal or Bermuda-type roofs have the roofdeck surface applied in a sawtooth or horizontal-batten construction. The size of the battens can be varied from a minimum of 1″ to any height, permitting the architect to adapt the shadow line to the character of his building.
4 The flat-locked-type roof may be applied in various size sheets, ranging from 14″x20″ to 20″x28″, depending on the equipment of the roof contractor. The seams are joined with half-and-half solder using rosin as a flux. Wood decks are always covered with rosin paper. No waterproof building papers are recommended. Sufficient drainage must be provided to prevent any water stand-

TABLE II

Terne samples painted with	Percentage of reflection of solar heat[2]
Titanic Outside White	80 percent
Salem Yellow	66 percent
Milwaukee Cream	59 percent
Everglade Green	35 percent
French Gray	25 percent
Spanish Blue	6 percent
Sash and Trim Black	4 percent

[2] Controlled reflectance spectrophotometer tests conducted by Pittsburgh Plate Glass Company on samples brush-coated twice with Pittsburgh Sun-Proof paint.

ing on the metal.

All cross seams are to be single locked and soldered, except for expansion seams which must be placed above the high-water line of gutters, valleys, walls, etc. Cross seams must be made according to the flow, i.e., the higher strips must always overlap the lower adjoining strips.

Terne metal is always fastened by cleats made of the same material spaced 8″ to 12″ apart along the edges of the strips. This method is used with all roof types, and nails are never driven through the strips of metal.

Standing seams may be alternated with battens, or flat seams may be used between either of these types permitting unlimited width variations. By employing flat-lock seams between horizontal battens, Bermuda installations many feet in width may be applied. Terne solders easily and produces a strong waterproof, permanent seal against water and weather, permitting single areas up to 30 feet square to be covered without expansion joints. The higher horizontal or vertical battens produce a massive appearance particularly suitable for large buildings.

color

A valuable asset of seamless-roll terne is its color adaptability. For many years, red iron-oxide paint was so commonly used for this kind of roof that many came to believe that only this paint could be used. It is still one of the best prime coats, but the finish coat may be of any color desired. Terne can be painted any color at any time without special treatment of the surface, the alloy coating providing a nearly perfect bond with paint.

There is a thermal value connected with terne's color adaptability. Painted white or a light color, a metal roof will reflect more of the sun's heat than any other roofing surface—about 68 percent to 80 percent of solar heat in the case of a white metal roof.

Color reflectivity factors have, of course, a direct bearing on the size and type of air-conditioning equipment required, in terms of both original and operating costs. By the same token, a terne roof painted in any of the lighter colors will ensure greater comfort during hot weather in buildings where air-conditioning has not been installed.

cost

Cost, of course, is always an important factor in the specification of any roofing material. In this context, the introduction of seamless-roll terne has substantially reduced installation expense. Where formerly only relatively small sheets were available, 20″x28″ being the most common, today's material is prepared in 50-ft rolls. In many cases, cross seams are eliminated entirely, with strips cut to exact lengths either in the shop or on the job. It lays flat and square, requiring a minimum time for installation. For instance the Bermuda standing-batten-seam installation, one of the most popular types, requires from 4 to 6 hr per square. The basic direct labor cost should not exceed $15 to $20 per square, while material cost, including painting, averages from $17 to $20 per square.

Protection against fire and lightning are safety merits of a terne roof. As an example of its fireproofing, cases have been recorded where a terne roof has smothered a fire after supporting members had collapsed. This material is the underwriters' standard for fire-door covering. Lightning rods are not necessary for this type of roof, which merely needs to be grounded at its four corners to ensure protection against this hazard.

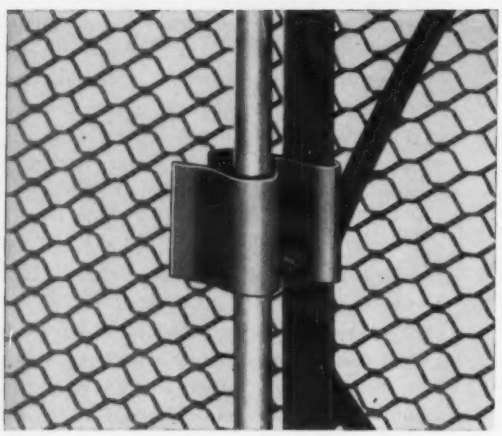
summary

Durability, economy, and design potential are, in essence, the bases of terne's value for roofing. With more than a life-time of service assured for each roof due to the corrosion resistance of the alloy coating and its natural affinity with paint; with the metal's comparatively light weight characteristic eliminating the necessity for special load-bearing substructures; and with the many design possibilities—stemming from possible variations in height and spacing of standing seams; height, width, and spacing of battens in ribbed roofs; and the variety of patterns limited only by the imagination of the architect—seamless-roll terne makes a continued contribution to the evolution of architecture.

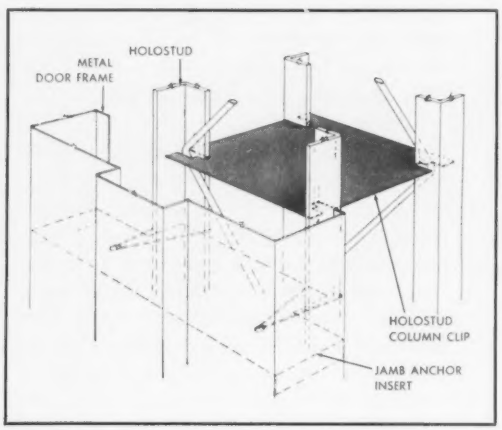
New Holostud Clips reduce plaster cracking!

Gold Bond's two new Holostud clips were especially designed to prevent plaster cracking from structural stresses and strains. We realize there is no single cure-all for this problem, but in a surprising number of cases there was no cracking when these clips were used. Ask your Gold Bond® architectural representative for the full story about the Holostud Resilient Clip and Column Clip. Or write Dept. PA-69 for technical bulletins describing the entire Holostud® System.

NATIONAL GYPSUM COMPANY, BUFFALO 13, NEW YORK

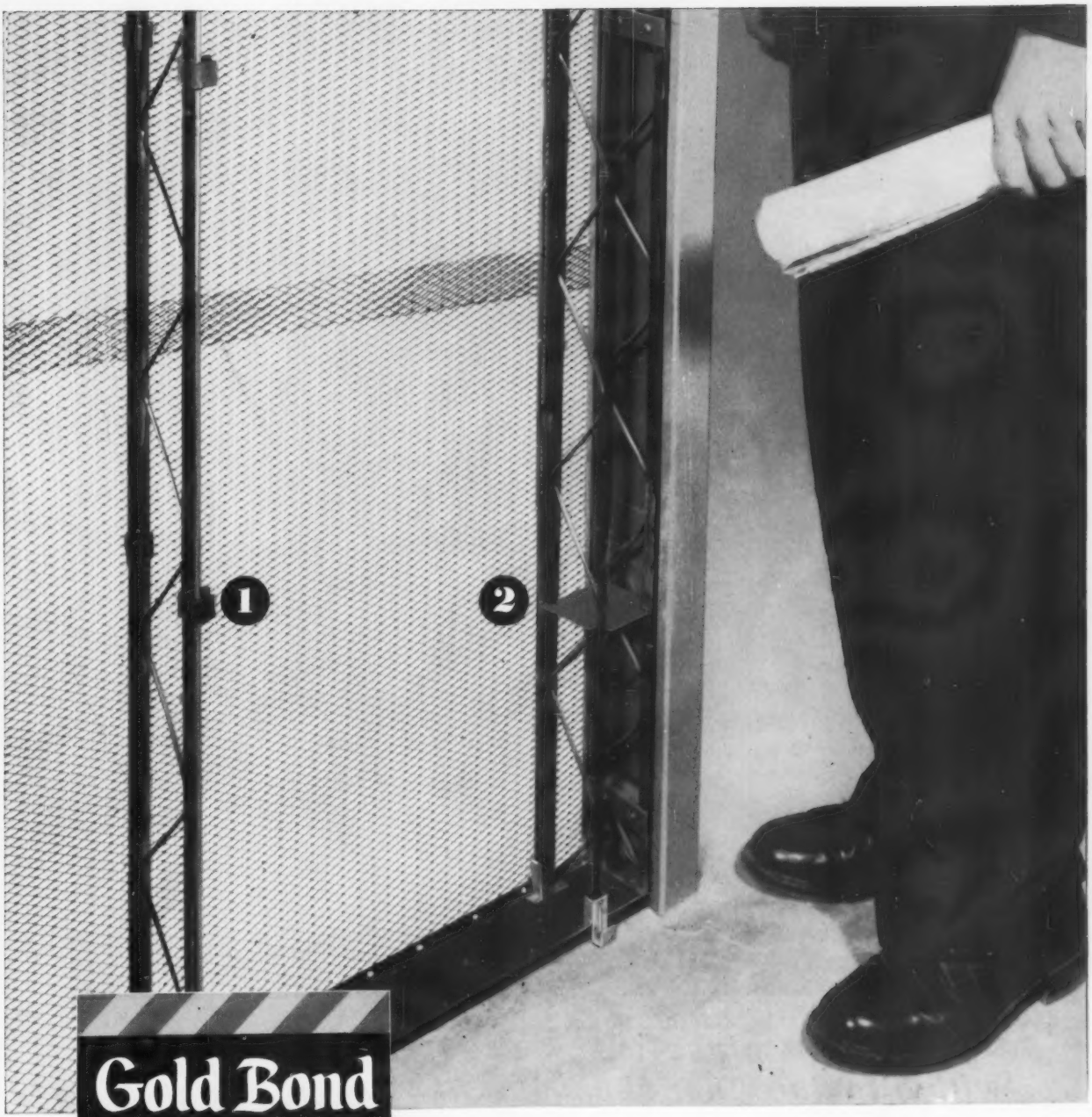


1 HOLOSTUD RESILIENT CLIP is used to fur the lath out from the Holostuds. This produces a "floating" wall which absorbs shock vibrations and structural movement.



2 HOLOSTUD COLUMN CLIP strengthens door frames. It connects the two studs adjacent to the frame, forming a rigid column which absorbs excessive vibrations from door slamming.

a step



Gold Bond
BUILDING PRODUCTS

ahead of tomorrow

Translucent glass... with a texture that shimmers like watered silk!

This delicate shimmering texture lets light flood through. Yet, you'll be amazed at its opacity.

This is unpolished plate glass in all its untouched *natural* beauty. Perfect for office partitions, entrance foyers, stairwell walls and other applications where light and privacy are *both* important.

Use it boldly. The texture will never dominate. For an extra color effect, L·O·F also makes rough plate of blue-green, heat-absorbing glass. Sheets are available in sizes up to 100″ x 144″. It is strong, 21/64″ thick.

For further information on L·O·F Rough Plate Blanks, call your L·O·F Distributor or Dealer (listed under "Glass" in the Yellow Pages). Or write to Dept. 9369, Libbey·Owens·Ford Glass Co., 608 Madison Ave., Toledo 3, Ohio.

LOF GLASS

ROUGH PLATE BLANKS

LIBBEY·OWENS·FORD *a Great Name in Glass*

TOLEDO 3, OHIO

LEADERSHIP
IN CEILING DESIGN

ACOUSTI-CELOTEX
SOUND CONDITIONING PRODUCTS

THIS IS MUFFLETONE®

MINERAL FIBER PANEL

Big size designed for fast lay-in installation. Strength, rigidity and smooth-appearing, non-dusting white surface make this new ceiling panel a preferred low-cost incombustible product.

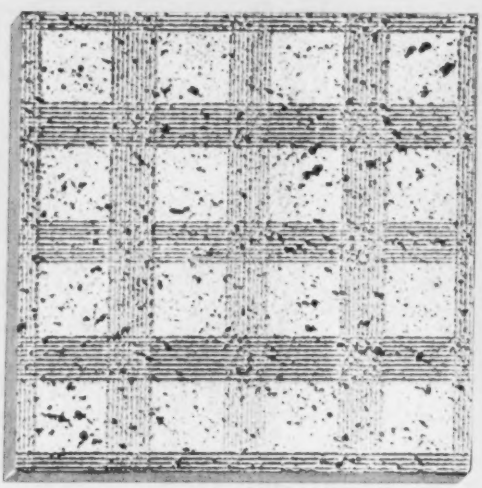
- High sound absorption: NRC .80
- Washable: new thermo-plastic vinyl paint finish
- Incombustible: Class A (Federal Spec. SS-A-118b)
- Sizes 2′ x 2′ and 2′ x 4′
- Modular integration of lighting and air diffusion units: structural T&T grid supports fixtures
- Samples and specification data available from your Acousti-Celotex Distributor

ATTENUATION FACTORS (AMA two-room testing method)

Frequency (CPS)	125	177	250	354	500	707	1000	1414	2000	2828	4000
Coefficient (db)	25	27	24	24	27	28	30	35	38	45	49

LEADERSHIP
IN CEILING DESIGN

ACOUSTI-CELOTEX
SOUND CONDITIONING PRODUCTS



THIS IS CELOTONE®
PLAID DESIGN
MINERAL FIBER TILE

This new concept in ceilings combines unique decorative effect with highly efficient sound absorption. The pattern of striations completely conceals joint lines . . . creates interesting textural contrast with the travertine-fissured surface.

- High sound absorption: NRC .70 to .80 depending on application
- Incombustible: Class A (Federal Specification SS-A-118b). UL listed and labeled
- Paintable: permanent acoustical efficiency
- Size 12" x 12" butt joint, square edges for adhesive application, or kerfed for erection on H&T concealed suspension system
- New Architects' Manual of Specifications and Details available. Ask your Acousti-Celotex Distributor for your copy

THE CELOTEX CORPORATION • 120 South La Salle Street • Chicago 3, Illinois

In Canada: Dominion Sound Equipments, Ltd., Montreal, Quebec

- Quality control in manufacture assures high, unvarying sound absorption: NRC .70 to .80 depending on application
- Paintable: permanent acoustical efficiency
- Incombustible: Class A (Federal Specification SS-A-118b). UL listed and labeled
- Size 12" x 12" butt joint, square edges for adhesive application, or kerfed for erection on H&T concealed suspension system
- New Architects' Manual of Specifications and Details available. Ask your Acousti-Celotex Distributor for copy.

*Trademark

MINERAL FIBER TILE

New way to give interiors distinctive textural quality!
Deep bold texture of every tile creates dramatic light-and-shadow effect . . . "loses" joint lines and gives ceiling monolithic appearance.

LEADERSHIP
IN CEILING DESIGN

ACOUSTI-CELOTEX
SOUND CONDITIONING PRODUCTS

T&T

H&T

Available kerfed for H&T concealed suspension system or without kerf for Celotex T&T® exposed system

THIS IS 2'X2' NEW RANDOM PATTERN PERFORATED MINERAL FIBER TILE

New double-size units enhance modern "open" interiors, speed installation on concealed as well as exposed suspension systems, provide exceptional strength and rigidity. New edge-to-edge random perforated pattern minimizes joint lines, creates monolithic effect. Also standard perforated pattern.

- High sound absorption: NRC .70
- Paintable repeatedly with no loss of acoustical efficiency
- Incombustible: Class A (Federal Specification SS-A-118b). UL listed and labeled
- 2' x 2' beveled edge, kerfed. Or trimmed edge, without bevels, for exposed suspension system grid
- Samples and specification data available from your Acousti-Celotex Distributor

ATTENUATION FACTORS (AMA two-room testing method. On H & T)

Frequency (CPS)	125	177	250	354	500	707	1000	1414	2000	2828	4000
Coefficient (db)	30	31	26	29	30	30	31	35	38	45	54

Barbara J. Melnick

banks

To create a public image of banking as a friendly and personal service, the architects of the three banks we show this month have designed open and inviting banking spaces. Revealed by the transparency of glass walls, these light-bathed interiors—alluring attractions by day—are striking and luminous advertisements at night. Banks, no longer temples where money is venerated or prisons where it is hidden and guarded, have become pleasant places for services essential to the flow of money.

Business is conducted in full view. Protection and confidence are inspired by the openness, the lack of concealment, and the brilliant illumination—rather than by massive walls. Open floor plans, unbroken by heavy or opaque partitions, expose public banking facilities—tellers' counters and officers' platforms—as simply as possible with a minimum of subdivisions. Large, uncluttered expanses, light-reflecting surfacing materials, and pale colors achieve a sense of spaciousness, reinforcing the impression of openness.

At People's Savings Bank in Bridgeport, Connecticut, the architects have capitalized on the bank's excellent location, the corner of a shopping center, by using generous window walls to show off the interior—an inviting space unbroken by supports or partitions. Light is evenly diffused by a luminous ceiling and translucent draperies, and reflected by ceramic-brick walls.

At Seattle First National Bank in Bellevue, Washington, a small community bank, the architects have carried the expression of openness to its extreme by employing a glass curtain wall, hung from the steel roof structure supported by steel columns set well back from the outside walls. Undisguised by box fireproofing methods, the slim columns with plaster molded to the contours of the H-sections maintain the openness and lightness of the interior.

At Girard Trust Corn Exchange Bank branch in Philadelphia, Pennsylvania, the efficient and dignified interior, on the ground floor of a 26-year-old building, is displayed to passers-by in the central commercial core of the city. Gleaming surfaces, crisp contrasts, and specially designed furniture are effective in a public space bathed in warm light from the glass spheres.

Joseph W. Molitor

Artist Samuel G. Wiener, Jr., has designed the teak and black-steel screen mounted on the back counter of the tellers' area at People's Savings Bank. A handsome attraction against a bright blue wall, the screen actually conceals doors to the back of the bank without occupying valuable corridor space.

Seeming to hover weightlessly over the tellers' counter, the abstract rectangles connected by diagonals recall charts illustrating the flow of money—to become a graphic suggestion of banking transactions.

banks

Guy Mogmas

client	People's Savings Bank
location	Bridgeport, Connecticut
architect	Davis, Brody & Wisniewski

Design Theory: Generous window walls show off the inviting interior space; semiprivate court with planting, trees, and benches sets the mood for the quiet interior. The spacious open look is achieved by uncluttered surfaces, a foil for the officers' platform and waiting area—set off simply by color, carpeting, and planting rather than by partitioning. At the tellers' counter, opposite the entrance, an elegant screen wall is a decorative attraction which hides doors to the back of the bank without crowding the space.

Color Plan: The major surfaces (luminous ceiling, flooring) are white or off-white (gray brick walls, natural draperies) as a background for the deep tones and intense contrasts at the tellers' counter—teak screen against rich-blue wall above counter paneled in teak-plastic laminate and stainless-steel, with tops of black-plastic laminate; at the officers' platform and waiting area, carpeting is neutral brown furniture teak and brushed chrome, upholstery fabrics black and orange on the side chairs, black or tan on the sofas.

Photos (except as noted): Joseph W. Molitor

data

cabinetwork, screen

Tellers' Counter: teak-plastic laminate/stainless steel/black-plastic laminate countertops/architect-designed/custom-made. **Screen:** teak/steel-tubing lattice/painted black/designed by Samuel G. Wiener, Jr.

doors, windows

Exterior Door, Windows: aluminum, glass/Amarlite/American Art Metals Company, 433 Highland Ave. N. E., Atlanta, Ga. **Draperies:** natural tan/Saran/fishnet/Knoll Textiles, Inc., 575 Madison Ave., New York, N. Y.

equipment

Vault, Walk-up Window/Night Depository: stainless steel/architect-designed installation/Herring-Hall-Marvin Safe Co., 1550 Grand Blvd., Hamilton, Ohio. **Walk-up Window Grill:** aluminum/Klemp Metal Grating Corp., 6601 S. Melvina Ave., Chicago 38, Ill.

furniture

Check-Writing Tables: teak-plastic laminate / brushed chrome / custom-made. **All Others:** Knoll Associates, Inc.

lighting

Luminous Ceiling: Luminous Ceilings, Inc., 2500 W. North Ave., Chicago, Ill.

walls, flooring

Walls: glazed brick/gray with black speckle/Hanley Co., 1 Gateway Center, Pittsburgh 22, Pa. **Wall Behind Tellers' Counter:** plaster painted blue. **Flooring:** white terrazzo/aluminum divider strips. **Carpet:** neutral brown/V'Soske, Inc., Lord & Adams, 4 E. 53 St., New York, N. Y.

accessories

Clock: Electric Time Co., 16 Union St., Natick, Mass. **Bank Fittings:** Bank Products Co., 3 Park Pl., New York, N. Y.; Beacon Artisans, 301 Walton Ave., New York 51, N. Y.

banks

client	Seattle First National Bank
location	Bellevue, Washington
associated architects	Mithun & Nesland and Ridenour & Cochran

Photos: Chas. R. Pearson

Design Theory: An open, friendly, light interior is displayed to the public through high, one-story glass walls on north, east, and south. Major problems were control of heat and light without extensive heating and cooling or concealing the interior with venetian blinds. Heat-absorbing Thermopane controls heat gain and loss. Without the severe light contrasts created by partial glazing and opaque panels, partitioning, or solid walls, the brightness of direct east and south sunlight is diffused by glass-fiber draperies. Completely open to light, in summer the "glass box" eliminates heat from artificial lighting while the glass itself is a reflective area, making air conditioning cheaper than in conventional buildings. **Color Plan:** The chief consideration was the dominant blue-green color of heat-absorbing glass. Extreme light contrast between inside and outside is avoided by the choice of pale interior surfaces—neutral and white tones, since the blue-green glass reinforces cool colors. All-pervasive white tones (walls, ceiling, flooring, columns, draperies) are accented by blue, yellow, orange (in small wall areas, furniture panels, upholstery), black walnut woodwork, and stained redwood siding.

data

cabinetwork, partitions

Banking Fixtures: walnut-plastic laminate/architect-designed. **Partition at Officers' Area:** black walnut oil rubbed/architect-designed.

doors, windows

Entrance Door: black walnut/colored glass/architect-designed. **Interior:** black walnut/United States Plywood Corp., 55 W. 44 St., New York, N. Y. **Window Walls:** outer glass, heat-absorbing blue-green Thermopane/inner, clear plate/Libby-Owens-Ford Glass Co., 608 Madison Ave., Toledo, Ohio; vertical mullions, light-steel beams/outer flange removed, round bar substituted for resistance to horizontal wind forces/painted silver/Fentron Industries, Inc., 2801 Market St., Seattle, Wash. **Draperies:** white glass-fiber boucle.

furniture, fabrics

Sofa: architect-designed/blue-green fabric. **Other Seating:** blue, yellow, orange fabrics/Herman Miller Furniture Co., Zeeland, Mich.; Knoll Associates, Inc.

lighting

Recessed: General Lighting Co., Inc., 248 McKibben St., Brooklyn 6, N. Y. **Glass Spheres:** Kurt Versen Co., 4 W. Slocum Ave., Englewood, N. J. **Accent Lights:** Litecraft Mfg. Corp., 100 Dayton Ave., Passaic, N. J.

walls, ceiling, flooring

Walls: sand plaster/white-sprayed lacquer; stained-redwood siding. **Ceilings:** sprayed acoustical insulating asbestos/natural color/Limpet/Keasbey & Mattison Co., Ambler, Pa.; acoustical plaster/white Sabinite/United States Gypsum Co., 300 W. Adams St., Chicago 6, Ill. **Flooring:** white asphalt tile/black fleck/Matico/Mastic Tile Corp. of America, P.O. Box 128, Vails Gate, N. Y.

banks

client | Girard Trust Corn Exchange Bank
location | Philadelphia, Pennsylvania
architect | Vincent G. Kling

Design Theory: Exposed through windows framed by an exterior planting box and an intimately scaled 7'-high entrance canopy, the sleek banking space exhibits its vault, specially designed fluted stainless-steel cladding from floor to ceiling with an open grill at the top for return air. The 13'-high room is bathed in warm light from glass globes hung at 9' level. Optical lights installed in acoustical-tile ceiling direct light to writing surfaces; a luminous ceiling illuminates tellers' couter. The counter, faced with black marquinas set in stainless-steel dividing strips has a white marble strip to screen work area from customer's view. Same care for sharp detail extends to specially designed clock; planters; check-writing desks.
Color Plan: Large surfaces of off-white (on walls, marble columns, ceiling) emphasize spaciousness. Crisp impression of black, white and stainless-steel counter, gray flooring (terrazzo and carpet) is relieved by Indian Red wall behind tellers. Officers' platform echoes warmth of red in walnut furniture, rich rust and intense-blue upholstery.

Photos: Lawrence S. Williams

data

cabinetwork, partitions

Tellers' Counter: black marquinas/stainless steel/white marble strip/architect-designed. **Check-Writing Desks, Officers' Platform Partition:** walnut / stainless steel / architect-designed.

doors, windows

Revolving Doors: stainless steel/glass/International Steel Co., 1321 Edgar, Evansville 7, Ind. **Draperies:** white rayon/custom print.

equipment

Vault, Drive-In Window: stainless steel/Mosler Safe Co., 320 Fifth Ave., New York, N. Y.

furniture, fabrics

Desks, Chairs: natural-finish walnut/Jens Risom Design, Inc., 49 E. 53 St., New York, N. Y.; dark-blue upholstery/Boris Kroll Fabrics Inc., 220 E. 51 St., New York, N. Y.; turquoise, blue tweed/Stroheim & Romann, 35 E. 53 St., New York, N. Y.; rust/F. Schumacher & Co., 60 W. 40 St., New York, N. Y.

lighting

Glass Spheres: Kurt Versen Co. **Ceiling-Installed:** flush-mounted optical lights/Century Lighting, Inc., 521 W. 43 St., New York, N. Y. **Wall Fixtures:** white-painted metal hour-glass/Gotham Lighting Corp. 37-01 31 St., Long Island City 1, N. Y. **Luminous Ceiling:** Honeylite/Hexcel Products, Inc., 2741 Ninth, Berkeley, Calif.

walls, ceiling, flooring

Walls: plaster painted white, Indian Red accent wall. **Columns:** white marble. **Ceiling:** acoustical tile/Armstrong Cork Co., Lancaster, Pa. **Flooring:** terrazzo/black, white chip. **Carpet:** looped pile/black, white, tan/Hardwick & Magee Co., Seventh & Lehigh, Philadelphia, Pa.

an exciting new use for magnificent marble

VERMARCO MARBLE PANEL-WALLS

VERMARCO PANEL-WALL units are low cost, preassembled, encased in extruded aluminum frames. The wall is composed of a layer of half-inch thick marble, bonded to a core of insulation, with interior face of asbestos-cement board.

The marble (exterior face) has improved exterior finish to enhance color and withstand weathering. The asbestos-cement board (interior face) may be painted or covered with a variety of other materials to produce attractive interiors.

Panels, when joined, are automatically weather and moisture sealed by means of a tongue and groove system with built-in vinyl weatherstop and expansion seal that *eliminates the need for additional framing or caulking.*

VERMARCO PANEL-WALLS are adaptable to a variety of curtain wall systems. They are available in three types: *Series 100—Flush-Mount Panel; Series 200—Grid-Wall Panel: Series 300—Window-Wall Panel.*

Flush-Mount Panel Detail

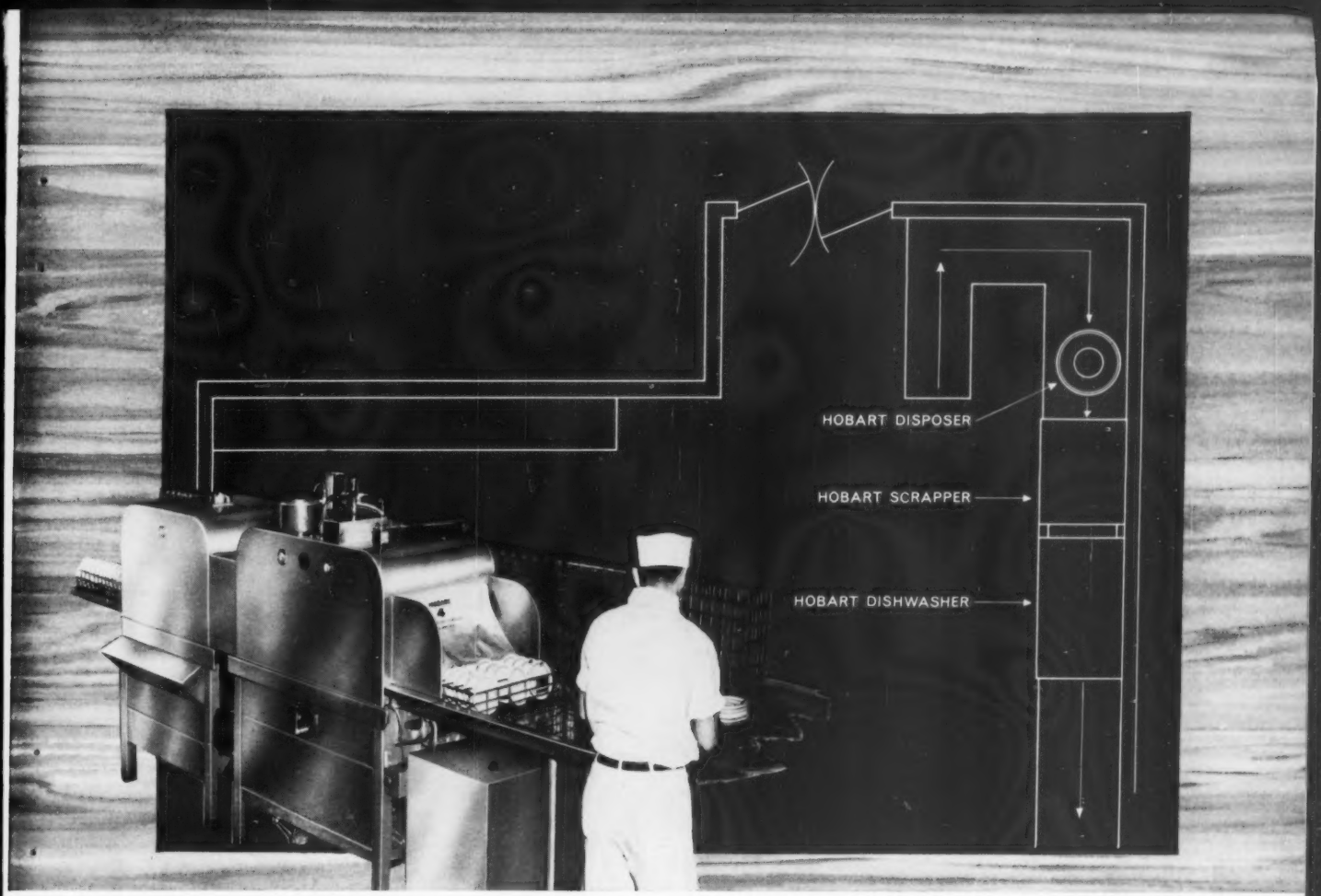
Complete information with specification details and costs available now. Write:

VERMONT MARBLE CO.

PROCTOR VERMONT

VERMARCO®

BRANCH OFFICES: BOSTON CHICAGO CLEVELAND DALLAS HOUSTON PHILADELPHIA LOS ANGELES NEW YORK SAN FRANCISCO WASHINGTON, D. C.
IN CANADA: ONTARIO MARBLE COMPANY LIMITED, TORONTO AND PETERBOROUGH, ONTARIO. CONTINENTAL MARBLE CO. LTD., VANCOUVER, B. C.



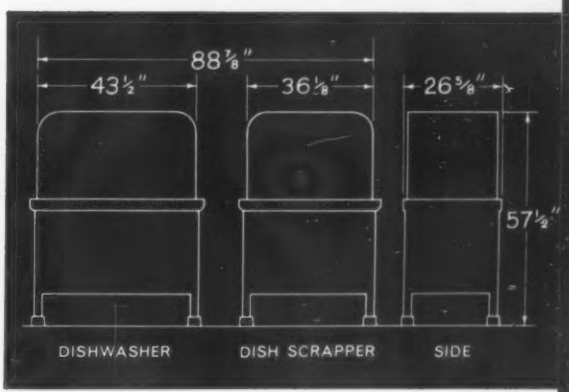
for kitchen efficiency and convenience... specify a Hobart automatic dishwasher-scrapper combination

The complete dishwashing operation can be speeded up and the drudgery eliminated with an automatic dishwasher-scrapper combination by Hobart.

The conveyor is connected so that racks of soiled dishes will be automatically conveyed through the dish scrapper into the dishwasher wash chamber and through the rinse compartment. There is a real savings in hot water and detergent because the overflow from the dishwasher tank is used for the scrapping operation before it is discarded. This saves water and detergent and assures proper water temperature and detergent strength for the scrapping operation.

It is good insurance for you to specify machines that can be depended upon to guarantee the efficiency of the kitchens you design. As an architect you'll readily appreciate the performance and dependability that are synonymous with kitchen machines bearing the Hobart name. You'll appreciate the flexibility of choice offered by the complete line of Hobart equipment.

Check Sweet's Architectural File for complete specifications on all Hobart kitchen and dishwashing machines. Or send in the coupon.



Hobart machines

The World's Largest Manufacturer of Food, Kitchen and Dishwashing Machines

The Hobart Manufacturing Co., Dept. HPA, Troy, Ohio

- ☐ Please send information on automatic dish scrappers.
- ☐ Please send information on dishwashers.
- ☐ Please send information on other kitchen machines.

Name of Firm.....

My Name.....

Address.....

City.....*Zone*.....*State*.....

it costs

four times as

much to **TAKE HEAT OUT**

as to **KEEP IT OUT**

FESCO® BOARD

Where is the point of diminishing return on roof insulation? **Surely not at the one-inch (@.34C) frequently specified. Take, for example, a department-store-type building, in St. Louis climate, with a roof area of 35,000 square feet. Reducing the overall heat transmission (U value) of the roof from the common 0.24 U to a 0.12 U could provide these savings:**

1 — You could save $3,745 in the cost of heating and cooling systems and equipment required—$1,120 in heating equipment, and $2,625 in cooling equipment. This is an *immediate* savings equal to 70% of the cost of the additional insulation.

2 — Annual savings in fuel for heating, and energy and maintenance for cooling, could be calculated at approximately $720 if either oil or natural gas is used for heating. These are annual savings equivalent to between 13% and 14% of the cost of the added insulation.

3 — Over a 15 year period, return on investment in insulation required to reduce the U from 0.24 to 0.12 would figure at *18% per year.*

No other building investment matches the return provided by adequate insulation. That is why thermal considerations should guide the architect from the very first planning and budgeting stages.

And in specifying insulation to provide the thermal value wanted he should give special attention to moisture resistance. A U value is based on *dry* insulation. Any moisture acquired results in increased heat gains or losses, and loss of heating-cooling equipment capacity margins. That is why more and more architects are specifying Fesco Board. Formulated with all-mineral perlite, it is moisture-resistant, incombustible, and rot-, mildew- and fungus-proof.

NOTE: Would you like a copy of, "The Architects Guide to Thermal Design"? Write us.

SEE OUR CATALOG IN SWEET'S INDUSTRIAL CONSTRUCTION FILE OR WRITE FOR COPY

SEE OUR CATALOG IN SWEET'S ARCHITECTURAL FILE OR WRITE FOR COPY

THE PRODUCERS COUNCIL — AFFILIATED WITH THE AMERICAN INSTITUTE OF ARCHITECTS — MEMBER

Specify Incombustible
FESCO® BOARD
Roof Insulation

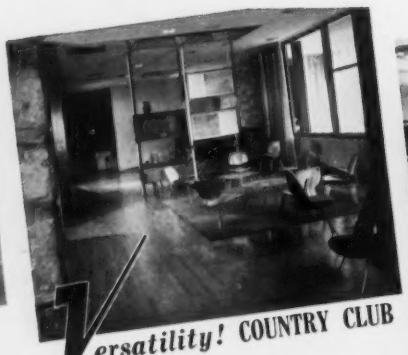
F. E. SCHUNDLER & COMPANY, INC. 504 RAILROAD ST., JOLIET, ILL.

Eastern Office: Chatham Phenix Bldg., 29-28 41st Ave., Long Island City, N.Y.

RATED FIREPROOF MATERIALS-ACOUSTICAL & INSULATING

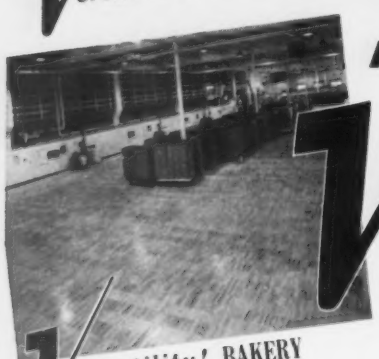
Developers and producers of incombustible mineral products including Fesco Insulation Board, Coralux Acoustical Plaster, Coralux Perlite Aggregates, Mica Pellet Vermiculite, High Temperature Insulating Blocks and Insulating Cement.

Versatility! GYMNASIUM



Versatility! COUNTRY CLUB

Versatility! CLASSROOM



Versatility! BAKERY

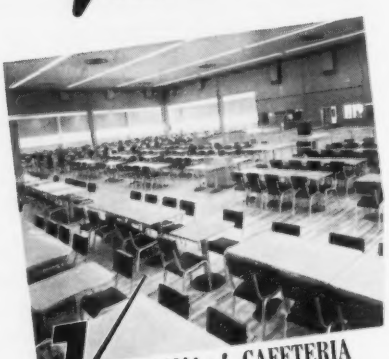
ALL FLOORED with

Versatile!

NORTHERN HARD MAPLE

Versatility! WAREHOUSE

Versatility! STORE



Versatility! CAFETERIA

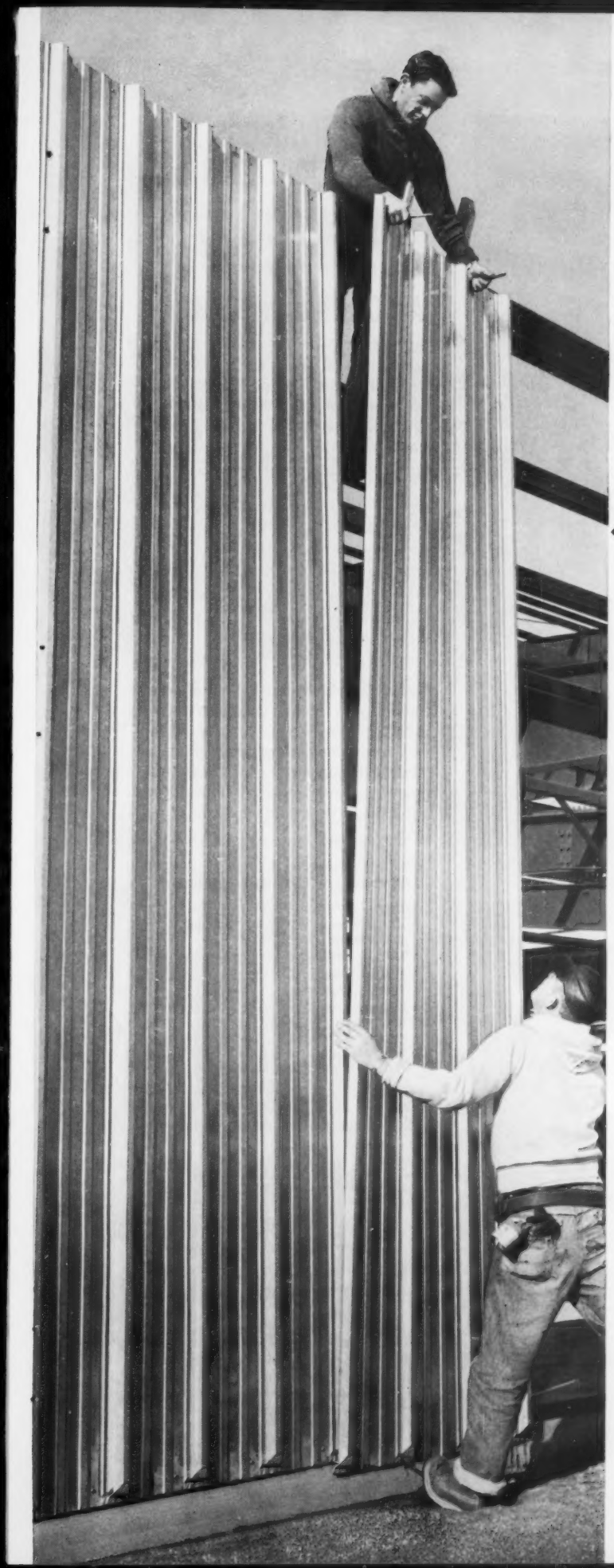
Versatility! BEDROOM

Versatility! TEXTILE MILL

Neither science nor Nature herself has yet produced a flooring material that serves so many varying needs so well and so long as *resilient* Northern Hard Maple. Here are nine typical areas where maple is a normal, and eminently sound, specification. There are a great many others. Produced in strip, block and patterned designs, under strict **MFMA** grading and dimension regulations, and properly laid, maple serves for years with simple, routine maintenance. It's tough—asks no babying. It's bright, smooth, tight, crevice- and splinter-free. Specify it with the confidence it has earned so well. See Sweet's Arch. 13j-MA, or write for AIA full-color File Folder.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
Suite 583, Pure Oil Building
Chicago 1, Illinois

FLOOR WITH *NORTHERN* HARD MAPLE
BEECH AND BIRCH



New **Butlerib**™ *panels** *create the*

BOLD AND BEAUTIFUL LOOK

for Butler buildings

Take a look at the new Butlerib panels being installed at the left. Notice the unique corrugated pattern. It creates pleasing shadow lines . . . gives industrial and commercial buildings a new, distinctive appearance. Butlerib is the new standard cover on Butler buildings.

Butlerib panels are not only beautiful – they're extremely functional. The new corrugated pattern makes them the strongest, most rigid and weathertight panels ever offered on pre-engineered Butler buildings. This means there's less deflection under wind and snow loads . . . joints will stay tight and snug . . . the lowest-cost way to build well.

Butler pre-engineering and mass production techniques save you hours of routine engineering time, save clients much costly custom fabrication and effect substantial savings in construction time.

For technical literature on pre-engineered Butler buildings and the new Butlerib panel, contact your nearby Butler Builder. He's listed in the Yellow Pages under "Buildings" or "Steel Buildings." Or write direct.

*Patent Nos. D178605; D178659

BUTLER®

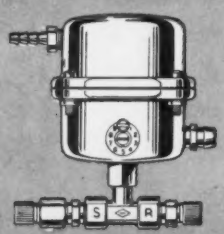
BUTLER MANUFACTURING COMPANY

7510 East 13th Street, Kansas City 26, Missouri

Manufacturers of Metal Buildings • Equipment for Farming, Dry Cleaning, Oil Production and Transportation, Outdoor Advertising • Contract Manufacturing

Sales offices in Los Angeles and Richmond, Calif. • Houston, Tex. • Birmingham, Ala. • Kansas City, Mo. • Minneapolis, Minn. • Chicago, Ill. • Detroit, Mich. Cleveland, Ohio • Pittsburgh, Pa. • New York and Syracuse, N. Y. • Boston, Mass. Washington, D. C. • Burlington, Ontario, Canada

PACIFIC FINANCE BUILDING, LOS ANGELES, CALIFORNIA
Architect: CLAUD BEELMAN • Mechanical Engineer: J. L. HENGSTLER
Air Conditioning Contractor: W. S. KILPATRICK CO.



POWERS CONSTANT AIR VOLUME REGULATOR

(550 installed here)

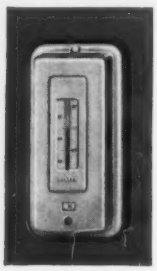
Photo shows it mounted within the mixing box of high velocity dual duct air conditioning system.

Room thermostat controls hot air valve and CAV Regulator controls cold air valve. Working together they provide precise room temperatures at constant air volume, regardless of static pressure variations in air supply ducts. (D-6)

Big Dividends from MODERNIZATION and POWERS

Air Conditioning Control

While many building owners in Los Angeles talked about smog and heat problems, Pacific Finance Corporation eliminated both in its 32 year old building at Wilshire Blvd. and Hope Street.



Powers Individual Room Control now provides year 'round personalized comfort for employees and tenants. Properly conditioned smog-free air is distributed throughout the building to 450 under-the-window and 100 ceiling type high velocity dual duct air conditioning units.

Dividends from a Powers Controlled air conditioning system:

- Higher Rental Income
- Employees accomplish more and make fewer mistakes
- Less absenteeism
- Fewer service calls, lower cost maintenance
- **Powers complete responsibility** for a correctly engineered control system, proper installation, continuous successful operation and **SERVICE** when required from offices in 85 cities.

When you Air Condition or plan a new building, ask your architect or consulting engineer to include a Powers Quality System of Pneumatic Temperature Control. There is none better.

THE POWERS REGULATOR CO.

Skokie, Ill. • Offices in 85 Cities in U.S. and Canada

Western Offices: Los Angeles, 3200 Temple St. — San Francisco, San Diego, Seattle, Portland, Phoenix, Albuquerque, Denver, Salt Lake City, Billings, Montana. Texas—El Paso, Dallas, Houston, Lubbock, San Antonio.

65 years of Temperature and Humidity Control

Emotional Scale in the Minor Key

*by Frederick Herman**

Scandinavian Architecture: Buildings and Society in Denmark, Finland, Norway, and Sweden from the Iron Age Until Today. *Thomas Paulsson. Charles T. Branford Co., 69 Union St., Newton Centre, Mass., 1959. 272 pp., illus. $7.50*

There is an old folk tale about a man who walked backward. Queried as to this peculiar habit, he stated that he liked to see where he had been. Walking backward to see the past is not to be recommended without reservations, but there is a lesson to be learned from it. We are so absorbed with the present and so busy trying to solve the problems of the anticipated future that we forget the present and the future are both the outcome of the past. This is especially true in the fields of the fine arts and of architecture. Today's buildings are not a spontaneous creation but the result of a centuries long process of evolution. This is an obvious fact, but one often forgotten. It seems to have been particularly ignored in the field of Scandinavian architecture.

In the past decade or two there has occurred a phenomenon which can only be called the Scandinavian period of modern architecture. This influence has been accepted without any real effort at understanding its background. A mode of architecture characteristic of a certain area has been uprooted and has been treated as an isolated fact. The attempt has been made to adapt it to an environment to which it is alien. It is characteristic of this partial adoption of Scandinavian architecture that until now we have had no study in English which treats the evolution of the subject in an historical context. This book finally places the entire subject matter in its proper historical setting.

The author, at some length, examines the Scandinavian church buildings of the Middle Ages, roughly to 1500. Most of these edifices have been ignored in writings on European architecture, or else they have been regarded as second-rate copies of the architectural styles prevalent in Germany and France. The author gives us a first-rate introduction to this type of Scandinavian architecture and points out that it is quite distinct from other European developments. In his words: ". . . it goes without saying that a national building tradition could not pos-

(Continued on page 200)

Dalby Church, Skåne (11th Century)

Apartment Buildings, Vällingby (20th Century)

* Architect: Professor, College of William and Mary, Norfolk, Va.

The heavily corroded panel was not Bonderized; the virtually undamaged panel was. The panels were scratched and then subjected to the A.S.T.M. standard salt-spray test. In the finish over Bonderite, rust stopped at the scratch-mark — but it spread extensively over the other panel.

Continuous 8-day salt-spray test proves prime advantage of Milcor steel roof deck

B-deck has wide ribs for maximum strength and rigidity. Safely carries normal loads over spans up to 10'. Wide purlin-spacings cut framing costs.

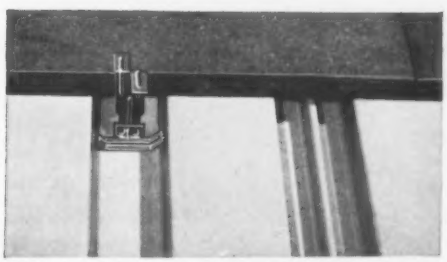
Field painting costs cut in half with Milcor Bonderized Deck!

Prime paint that withstands salt spray for 192 hours certainly can take the wear and tear of shipping, storage, and erection. This often damages ordinary factory-applied primer.

Milcor deck is Bonderized, fortified against corrosion. Then it is flow-coated with an epoxy-resin enamel, oven-baked to abrasion-resistant hardness—for the most durable finish ever applied to roof deck!

One field coat of paint on Milcor deck usually does the job of two coats on ordinary decks. As you know, a finished paint job can be no better than the prime coat.

See Sweet's, section 2f/INL — or write for catalog 240.



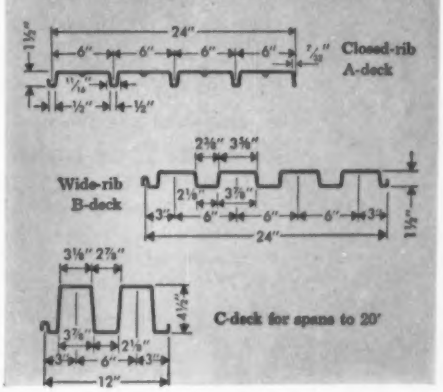
You can get Class 1 fire ratings for roofs over Milcor deck, by using Milcor's new non-piercing insulation clip that eliminates asphalt coating.

MILCOR® Steel Roof Deck

It pays . . . in many ways . . . to specify Milcor Steel Building Products

MILCOR WALL PANELS:	*Sweet's, section 3b/In*
MILCOR CELLUFLOR:	*Sweet's, section 2a/In*
MILCOR ACOUSTIDECK:	*Sweet's, section 11a/In*
MILCOR RIBFORM:	*Sweet's, section 2h/In*
METAL ROOF DECK:	*Sweet's, section 2f/INL*
MILCOR METAL LATH:	*Sweet's, section 12a/In*
MILCOR ACCESS DOORS:	*Sweet's, section 16J/In*

Three types by the world's largest producer of steel roof decks:



INLAND STEEL PRODUCTS COMPANY Member of the INLAND Steel Family

DEPT. F, 4069 WEST BURNHAM STREET, MILWAUKEE 1, WISCONSIN ATLANTA, BALTIMORE, BUFFALO, CHICAGO, CINCINNATI, CLEVELAND, DALLAS, DENVER, DETROIT, KANSAS CITY, LOS ANGELES, MILWAUKEE, NEW ORLEANS, NEW YORK, ST. LOUIS, ST. PAUL. RD-21

"SEEMORE" SAYS:
A COMPLETE FAMILY OF GUTH BRASCOLITE
PIN-HOLES
for any size lamp—from 75 to 1,000 watts
A complete line of versatile, high-quality recessed fixtures for "pinpoint" light control in auditoriums, stores, churches, etc. They provide high-intensity lighting from a nearly invisible source—all you see is the "pin-hole!" U.L. Listed.
Every model is designed for easy installation, relamping and cleaning
SHOVEL YOUR LIGHT TO WHERE IT'S NEEDED
300 to 1,000 watt models available with "light shovels"... for directing light to walls or other specific areas.
WRITE FOR "PIN-HOLE DATA SHEETS" TODAY
Guth brascolite
THE EDWIN F. GUTH CO.
ST. LOUIS 3, MISSOURI

reviews

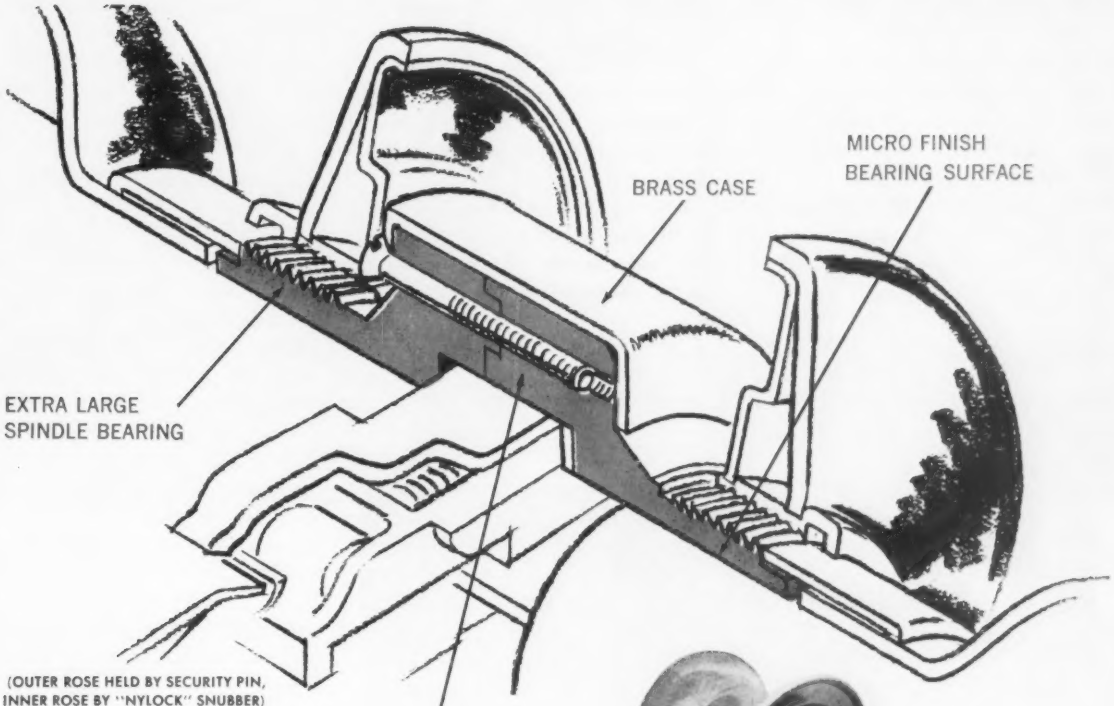
(Continued from page 197)

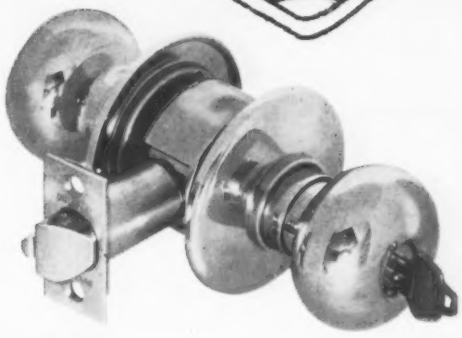
sibly be created out of something entirely negative, out of a mere lack of medieval spirit that ruled the rest of Europe. The lack was certainly not total—the Scandinavians tried hard to follow the evolution. . . . It is as if the melancholy sense of fear contained in the Romanesque churches was never released in the sometimes almost overstrung ecstasy of the Gothic cathedral. Scandinavian emotions never reached such breathtaking heights, although they were no less intensely felt. The Nordic churches are more earthbound, their emotional scale in the minor key. It is as if the northerner could not grasp and experience the full extent of the divine relief that the Kingdom of Heaven offered."

To a very large degree Paulsson may have touched upon one of the main features of Scandinavian architecture in the above passage. Time and time again in the book, and especially in the pictures, one is struck by the restraint, "the emotional scale in the minor key" that characterizes the buildings. Even in instances where foreign architects have been employed and the building becomes monumental in scale, there remains a severe, precise, and restrained feeling in their appearance. Writing of the 17th Century, a period when Scandinavia was at its peak of political power, Paulsson refers to this essential conservatism in Scandinavian architecture and finds that it ". . . must have lain in the personal nature of architects and clients. . . . This traditionalism was an old and familiar feature of Nordic architecture, particularly in Sweden."

In other sections of the book, the author treats various phases of Scandinavian architecture according to a chronology based on the changes in the social structure and outlook in Scandinavia. Of these, the last two, "Declining Monarchy and Rising Middle Class," which covers the 19th Century, and "Industrial Society and its Environment," which treats the 20th, are of special interest: both illuminating and disappointing. Approaching his subject primarily from a social viewpoint, the author succeeds in highlighting the forces which pushed Scandinavia toward a modern architecture—namely the demands of modern

(Continued on page 202)





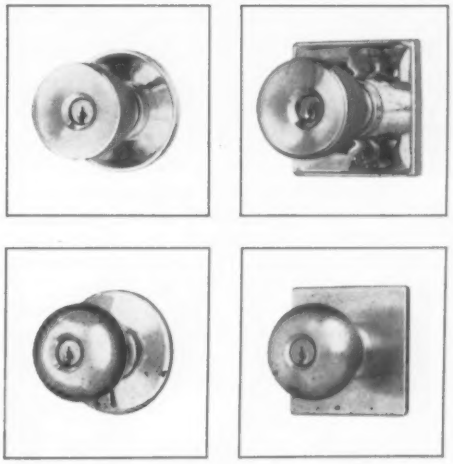
LARGER "SAPPHIRE-HARD" SPINDLE BEARINGS GIVE SMOOTHER ACTION—LONGER WEAR

ON CHALLENGER 900 SERIES HEAVY DUTY LOCKSETS

Challenger's progressive engineering keeps pace with modern metal developments to produce the smoothest locksets ever built.

Exclusive use of special aircraft aluminum alloy, hard anodized by the Sanford process, gives Challenger spindle bearings these outstanding features:

- Largest bearing area in the industry.
- "Sapphire-hard," micro-finish surface for amazingly smooth gliding movement.
- Elimination of rust or corrosion problems for longer trouble-free service.
- More resistant to abrasion than case hardened steel. (Rockwell C-58.)
- 8 to 10 times longer wear—by test.



Complete color catalog P-6.

CHALLENGER

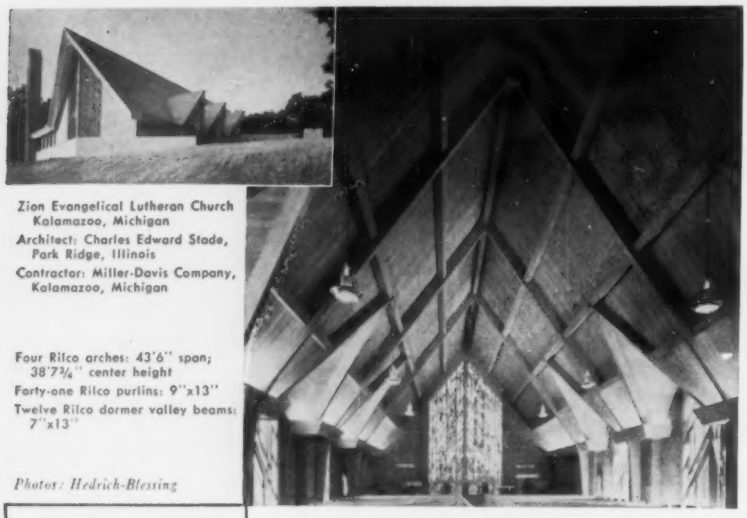
CHALLENGER LOCK COMPANY, 2349 W. La Palma Avenue, Anaheim, California

reviews

(Continued from page 200)

technological society and the housing needs of the new urban proletariat. Unfortunately, he does not show why this development took the form that it did in Scandinavia—as distinct from the trends which developed in other technological societies, such as the United States. It is, at best, answered implicitly where Paulsson points out that this, like all previous Scandinavian architecture, is conditioned by the character of the people and the needs of the climate. One also wishes that in this section, especially, the author would have included a greater number of the truly excellent photographs which distinguish this book.

In closing one must mention, with praise, the translation which gives the book a style and character that are both distinctive and pleasant.



Zion Evangelical Lutheran Church
Kalamazoo, Michigan
Architect: Charles Edward Stade,
Park Ridge, Illinois
Contractor: Miller-Davis Company,
Kalamazoo, Michigan

Four Rilco arches: 43'6" span;
38'7¾" center height
Forty-one Rilco purlins: 9"x13"
Twelve Rilco dormer valley beams:
7"x13"

Photos: Hedrich-Blessing

"HAPPY WITH COST ERECTION APPEARANCE"

". . . we were completely happy with the cost, the erection, the appearance and the grade of the Rilco laminated members in this church," writes the architect. The Rilco arches, purlins and dormer valley beams contributed greatly to the church's functional and aesthetic appeals, for the warmth and symbolism of wood helps raise man's thoughts from himself upward.

And there are other reasons why wood is especially suitable for churches: Laminated wood allows virtually complete design freedom—blends with any church style, any church concept—offers warmth, friendliness, reverence—plus economy and all-important fire-safety.

Before you design your next church, discover how Rilco laminated wood members can help you to offer a larger, more attractive structure—within the budget. For more information call your nearest Rilco office.

RILCO
works wonders with wood

RILCO LAMINATED PRODUCTS, INC.
W817 1st National Bank Bldg., St. Paul 1, Minn.
District Offices: Newark, N. J., Fort Wayne, Ind.
Tacoma, Wash.

for tourist and student

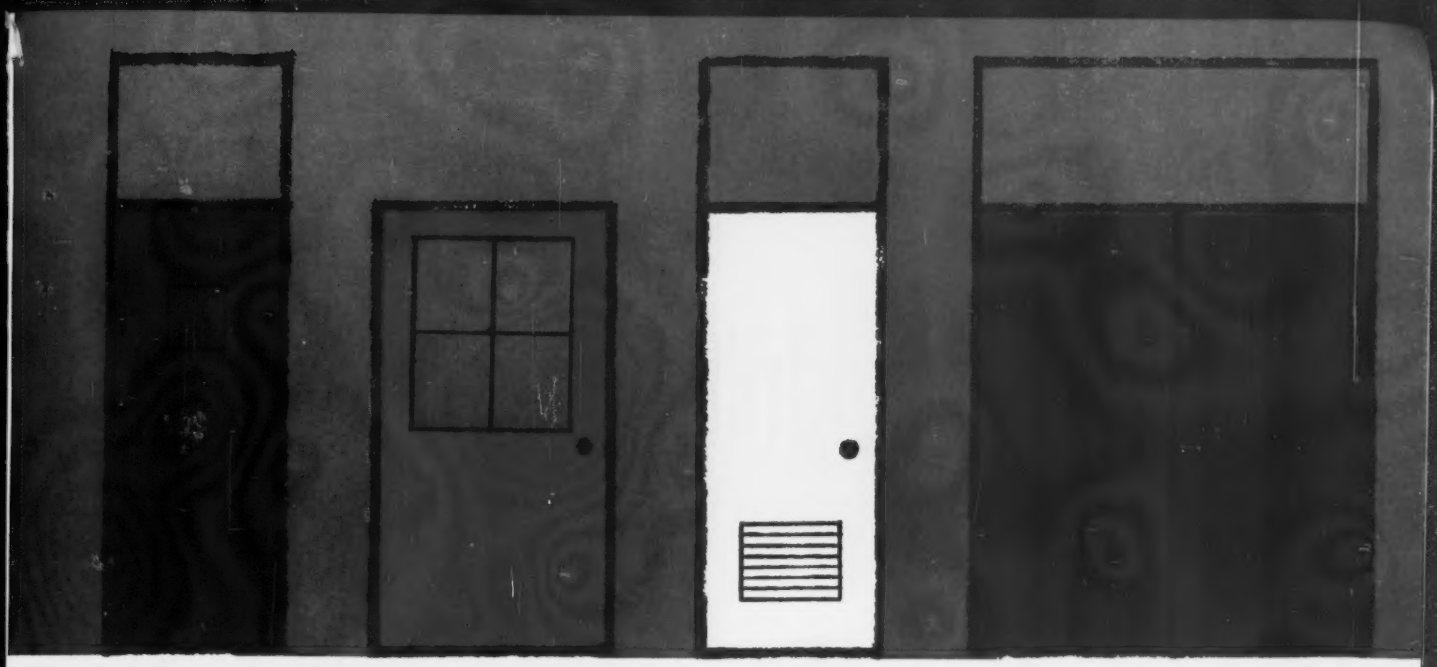
Looking at Architecture in Canada. *Alan Gowans. Oxford University Press, 417 Fifth Ave., New York, N. Y., 1959. 232 pp., illus. $10*

Now that Canada is coming of age, it is high time to look at Canadian architecture. Alan Gowans is the ideal *courier*. He is a Canadian, educated at University of Toronto, and author of *Church Architecture in New France* (Toronto, 1955). But he is not chauvinistic, for he did his graduate study at Princeton University, has taught at Middlebury College, and has been director of Fleming Museum at University of Vermont. He is now chairman of the Art Department at University of Delaware and a director of Society of Architectural Historians.

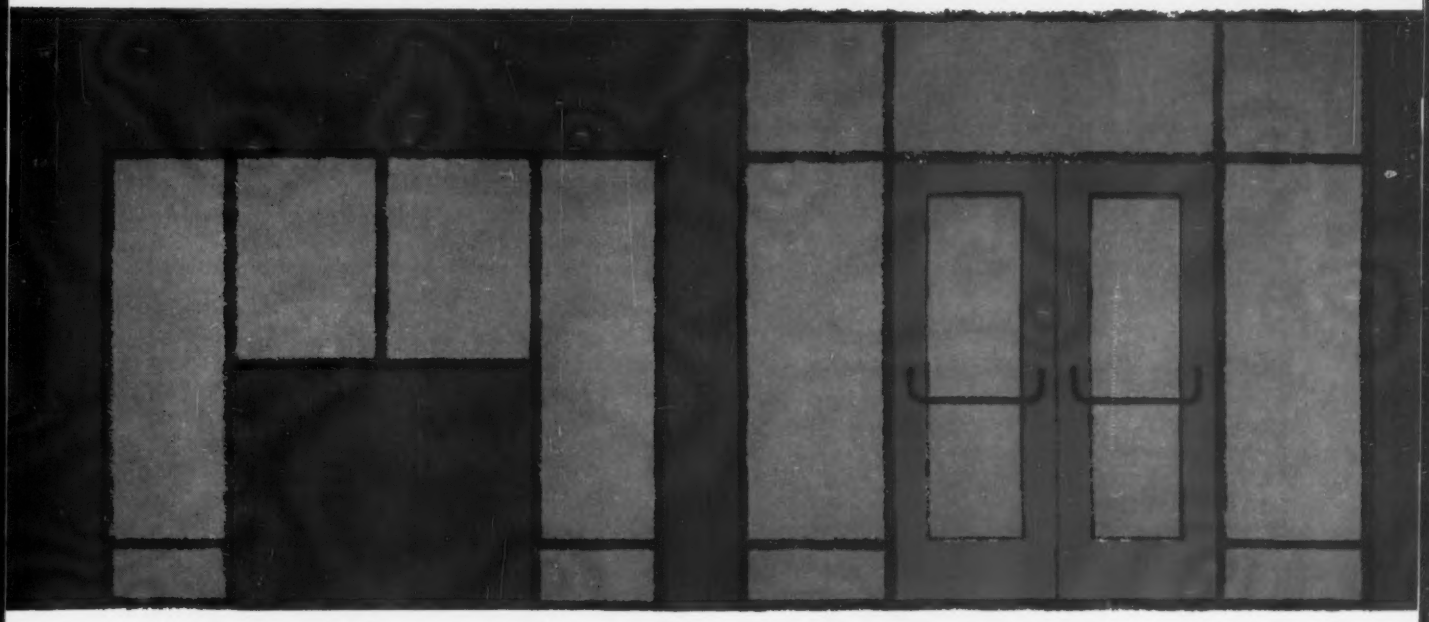
The Oxford University Press is to be congratulated on the format and production of the book. It is approximately 8½ in. square and weighs 1¾ lb and so can be carried in pocket or pocketbook by the pedestrian tourist. Its *Dufyesque* jacket drawing by Theo Dimson makes it even more attractive for the armchair traveler—also to ornament his coffee table. The size of the pages makes possible good, clear, full-page illustrations, and it permits the text to run in double columns for quick reading, with smaller illustrations inserted in the text. Under each illustration—photograph, ink drawing, plan, detail, or elevation—are several descriptive lines, so that the whole work may be considered a picture-book with 138 illustrations surveying Canadian architecture from Indian houses to Stratford Shakespeare Festival Arena theater.

It is much more than that, however, for the text gives a critical commentary on architectural style from the 16th Century to the present, showing how Canadian examples fit into the world picture. In consequence, the volume is not only a readable and informative book for the layman, but can also be used as a textbook in schools and colleges. This aspect of it is enhanced by the bibliographic note at the end of each chapter. It seems an oversight that nowhere in the bibliography is there a mention of *The Picture Gallery of Canadian History* (C. W. Jefferys. Ryerson, Toronto, 1942-

(Continued on page 206)



Meet fire regulations immediately with Aetnapak®



always-in-stock, custom-quality hollow metal

AETNAPAK

Take advantage of 48-hour stock shipments of Aetnapak* Underwriters Label and non-label steel doors and frames for both new construction and alterations. U-L labeled doors, including three-hour (A) label Fyr-Chek Doors with single-point locks, can be ordered directly from Aetnapak catalog. Write for your copy.

AETNA STEEL PRODUCTS CORPORATION, 730 FIFTH AVENUE, NEW YORK 19, N. Y.

Other Aetna products: Aetnawall Metal Office Partitioning; Aetna Custom Hollow Metal Doors and Frames.

*Order Aetnapak with or without hardware — doors and frames, doors separately, frames separately.

AETNA STEEL PRODUCTS CORPORATION
730 Fifth Avenue, New York 19, N.Y.
Please send free catalog of AETNAPAK custom-quality, in-stock steel doors, frames and hardware.

Name and Title

Company Name

Address

City State

you wouldn't substitute this

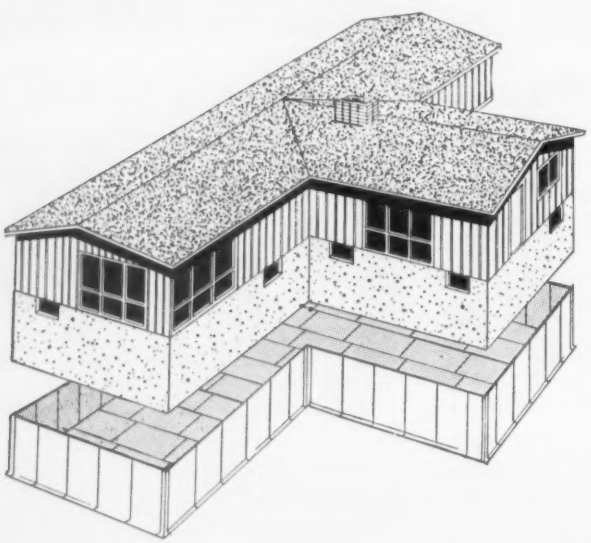
...so why substitute it for

COMPARE *PM WITH ANY OTHER TYPE OF VAPOR SEAL ON THE MARKET!

COMPARE the permeance ratings . . . for on this point alone, "PREMOULDED MEMBRANE" stands head and shoulders above all other, so called, vapor barriers on the market. In fact, as you will see by the chart below "PREMOULDED MEMBRANE" is over 16 times more impermeable than the next ranking material.

MATERIAL	WATER VAPOR TRANSMISSION (in *Perms)	
	LOW	HIGH
Sealtight "PREMOULDED MEMBRANE"	.0066	.0066
Polyethylene Film (.004 in. thick)	.097	.108
55-pounds roll roofing	.030	.081
Duplex paper (coated both sides—reflectors material, reinforced)	.304	.347

*Perms—grains per square foot per hour per inch of mercury difference in vapor pressure at standard test condition.

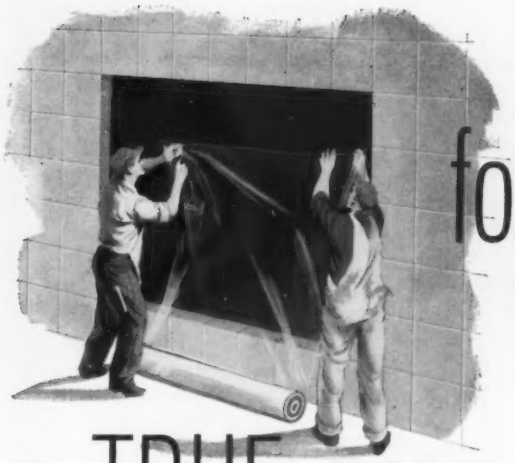


COMPARE the strength . . . "PREMOULDED MEMBRANE" is strong enough to maintain its permeance rating after it has been subjected to the pouring of aggregate, trundling of wheelbarrows and installation foot traffic. Resists rupturing and tearing. How many other materials will perform like this under the above circumstances?

COMPARE the ease and speed of providing a permanent installation . . . "PM" may be laid directly over the tamped grade or fill . . . joints are then efficiently sealed with Sealtight Catalytic (non-setting) Asphalt, thereby providing a monolithic vapor seal with mechanically sealed joints, that will expand and contract with the concrete slab above without breaking the bond.

*PM PROVIDES A WATERPROOF SHIELD THAT PERMANENTLY PROTECTS YOUR STRUCTURE FROM MOISTURE MIGRATION

Sealtight "Premoulded Membrane" provides a positive, permanent protection against the ravages of destructive moisture in all residential, commercial and institutional buildings. Ideal for all types of construction . . . for slab-on grade construction the installation of "PM" completely isolates slab from any moisture originating in the site . . . the installation of "PM" in Crawl-space construction removes all danger of moisture migration, condensation and oxidation of metal installations in the crawl-space area . . . eliminates need for ventilation . . . "PM" properly applied to the exterior of basement walls and beneath the floor slab insures a warm, dry, livable basement. Prevents any migration of vapor or capillary movement of free water.



for this

a TRUE vapor seal?

It is fortunate that within the last decade the building industry has recognized the need to install a vapor barrier between the site and structure . . . unfortunately, the building industry has been guilty of the promiscuous use of permeable materials under the guise of vapor barriers. It is a known fact that asphalt saturated felts and building papers, duplex papers and plastic films are all highly permeable and should not be considered as effective vapor barriers.

You do not use a polyethylene film to replace glass for many reasons . . . most important is the fact that it would not completely eliminate weather penetration and is easily ruptured. It is basically these very same reasons that make plastic films and other permeable materials unsuitable as a vapor barrier . . . and, even more important, unlike a window, a vapor seal is installed *permanently* . . . it cannot be replaced at a later date. A vapor seal must be impermeable, monolithic, without voids, open or lapped seams and strong enough to provide a permanent installation without rupturing under installation handling and foot traffic, the trundling of wheelbarrows and pouring of aggregate.

We sincerely advise and invite your comparison of "PM" against all other "so called" vapor barrier products on the market. "PM," the industry's only true, impermeable vapor seal, is actually the most economical available when you consider the reduced maintenance and redecorating costs realized through the complete elimination of moisture migration into the structure.

*Premoulded Membrane TRADEMARK ... the industry's only TRUE vapor seal!

Write today for complete information . . . request your free copy of "Design Techniques"—a technical manual that provides in the architects and engineers own language factual proof of the effectiveness of using impermeable materials in eliminating moisture migration. For a complete set of structural recommendations on the applications and installation of "Premoulded Membrane," request a set of our "PM" Tech-Tips.

OTHER SEALTIGHT BUILDING PRODUCTS

- "CORKTITE" Impermeable Perimeter Insulation
- "SEALTIGHT" PVC Waterstops
- "HYDROMAT" Asphalt Liners
- JOINT SEALING COMPOUNDS
- EXPANSION JOINTS of all types including asphalt, fibre, cork, and sponge rubber
- ROOF COATINGS & CEMENT
- PLASTER BOND
- SILICONE WATERPROOFING

W. R. MEADOWS, INC.

9 KIMBALL STREET • ELGIN, ILLINOIS

reviews

(Continued from page 202)

1950), which was published in three volumes covering all phases of Canadian development, social and historical, with illustrations of more than 300 Canadian buildings. It seems to this reviewer that Jefferys, although better known as a painter and illustrator, was really the first architectural historian in Canada and as such should have been noted by Gowans.

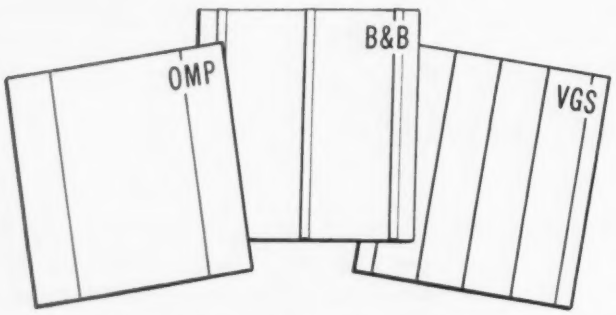
In the preface, the author states his aims, which are admirably carried out later in the volume. He says that *Looking at Architecture in Canada* is a popular history: partly because it is addressed to the intelligent layman, and partly because the lack of architectural genius or special originality in Canadian architecture brought forth buildings which "are products of common, general, 'popular' taste in their time and place."

Gowans continues, "Canadian (or any) architecture, considered as cultural expression, is the product and reflection of a number of patterns of development, operating simultaneously, and superimposed one on the other." The patterns which he has chosen to disentangle are four in number: the pattern of man's successive stages of dominance over nature or his environment; the pattern of "national traditions"; the pattern of changing beliefs about the nature of what constitutes a work of *architecture* as distinct from mere *building;* and the pattern of successive historical "styles" —Neo-Classical, Gothic, Victorian, and so forth—which result from the interaction of these broader patterns. All these patterns follow those of Europe "with (inevitably) many peculiarly Canadian variations and emphases." In a Quebec church, like the Marial Chapel *Lac Bouchette*, designed by Henri Tremblay in 1952, Gowans sees the beginning of a new Canadian architecture: "of an architecture that will be truly Canadian, and may be great."

Gowans, in his determination to be objective and global in his view of Canadian architecture, has underemphasized some architecture which is uniquely Canadian in character: the villas in Victoria, the Ontario farmhouses with their sharp-peaked central dormers, the flaring eaves of the Quebec houses, and the Catholic parish churches with their high roofs and towers.

Gowans believes that the Vitruvian canons best distinguish architecture from building, and he notes that "different people find, and have always found, different 'delights' in architecture." From this he concludes, "One thing is certain —there is something in architecture generally, and Canadian architecture in particular, for everyone to enjoy." In like manner there is something in this book to appeal to everyone.

AGNES ADDISON GILCHRIST
Mount Vernon, N. Y.



FROM COAST TO COAST

Homasote offers 3 products for exterior wall finish that will save you from $54 to $276 on every 1200 square feet of exterior wall surface

MAKE US PROVE IT!

MR. ARCHITECT: Send us one of your house plans. We will give you the exact cost—in your area—for using each of these three products on that particular house. You incur no obligation whatever. Your plan will be kept confidential and returned to you. Send your house plan to Department F-8.

50 years AT YOUR SERVICE

HOMASOTE COMPANY
TRENTON 3, NEW JERSEY

esthetic symbol

Swedish Design. *The Swedish Institute, Stockholm, Sweden, 1958. Distributed by the American-Swedish News Exchange, Inc., 630 Fifth Ave., New York, N. Y. 14 text pp., 66 plates. $2 (paperbound)*

"Artist to Industry" and "More Beautiful Everyday Wares," two mottos of the

(Continued on page 208)

NEW PATIENTS

DOCTORS' ORDERS

NEW PATIENTS

PATIENTS

PATIENTS

increase
chart-handling efficiency
50 to 100% with the

BOONE CHART SYSTEM WORKS FROM BOTH SIDES!

SEPARATES DOCTORS' CHART AREA FROM BUSY NURSES' STATION

VISIBLE POCKET FOR ADMISSION SLIP

CARD HOLDER BOTH ENDS

Charts have name card holder at both ends. Transparent plastic pocket (inside) holds copy of admission slip.

Built in or placed on free-standing table. Four persons (2 per side) work without interference. Window for penholders and passing charts from side to side. No need to rotate or change positions.

▲ Built-in installation

▼ Free-standing unit

Protect your patients with this Forget-Free system. Makes charts available from both sides — speeds doctor-to-nurse communication — organizes charts by patient category with separate section for . . .

1 NEW PATIENT charts awaiting doctor's orders

2 Charts with DOCTOR'S ORDERS awaiting attention

3 ACTIVE patient charts

Position of chart serves as automatic reminder of action required! No forgotten or misfiled orders.

Shampaine COMPANY

1900 S. JEFFERSON • ST. LOUIS, MO.

a SHAMPAINE Industry

U. S. Pat. No. 2,713,731

(Continued from page 206)

Swedish Society of Industrial Design, contribute much to the fact that the words Swedish Design, have become a symbol of beauty to many. If they are to you, you will be pleased to see this handsomely illustrated small book and to read the brief history and background of industrial design in Sweden.

The genesis of present-day industrial design is the home craft of past centuries, which is today enjoying a renewal, encouraged by the industrial designer. The artist-designer is the center of all design in Sweden. He moved into the factories with the advent of industrialization, and there he not only contributes to the quality of mass produced housewares, but he continues in his studio-within-the-factory to produce individual objects of art. Each designer tends to concentrate, and thereby perfect, his skill in one material: glass, ceramics, textiles, furniture, or silver.

Another factor in the quality of design is the emphasis placed on manual work and manual finish in each specialized product field. Though the number of employees in industry range from an average of 15 in 800 small furniture shops to 1200 in the five large ceramic factories, in each there is the opportunity for the hand of the craftsman to add its touch.

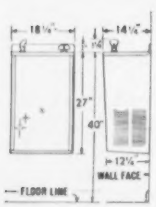
Though several national institutions and organizations continue to maintain the status of design, it could not thrive to the point of being a symbol of Sweden were it not for the people of that country. They seem to possess an inate taste and appreciation for the "esthetic simplicity" of the furnishings and housewares which daily surround them. And one must not overlook the role of the daily newspapers (not the trade journals) which keep the public informed, aware, and critical of design.

The 6x8 plates, in four-color or black and white, illustrating textiles, glass, ceramics, furniture, and silver, are a joy to thumb through and admire, several times. One must compliment the Swedish Institute for continuing the quality of design in the organization and layout of this book.

A.L.

The only cooler of its kind, not on the floor—but *on the wall*

Wall Face Splash integral part of top
Stainless Steel top contoured for easy cleaning
Fits flush on the wall, no outside plumbing connections
Always easy to keep floor clean
Halsey Taylor
WALL MOUNT



Write for information

Here is a totally new kind of water cooler—it's mounted on the wall, *off the floor!* It's more compact, beautifully proportioned, and, because it does not stand on the floor, there are no corners or crevices to catch the dirt. You can recommend this new Halsey Taylor *Wall-Mount* as an outstanding cooler value. In capacities of 6, 11 and 16 gallons.

The Halsey W. Taylor Co., Warren, Ohio

WM-3

two revised handbooks

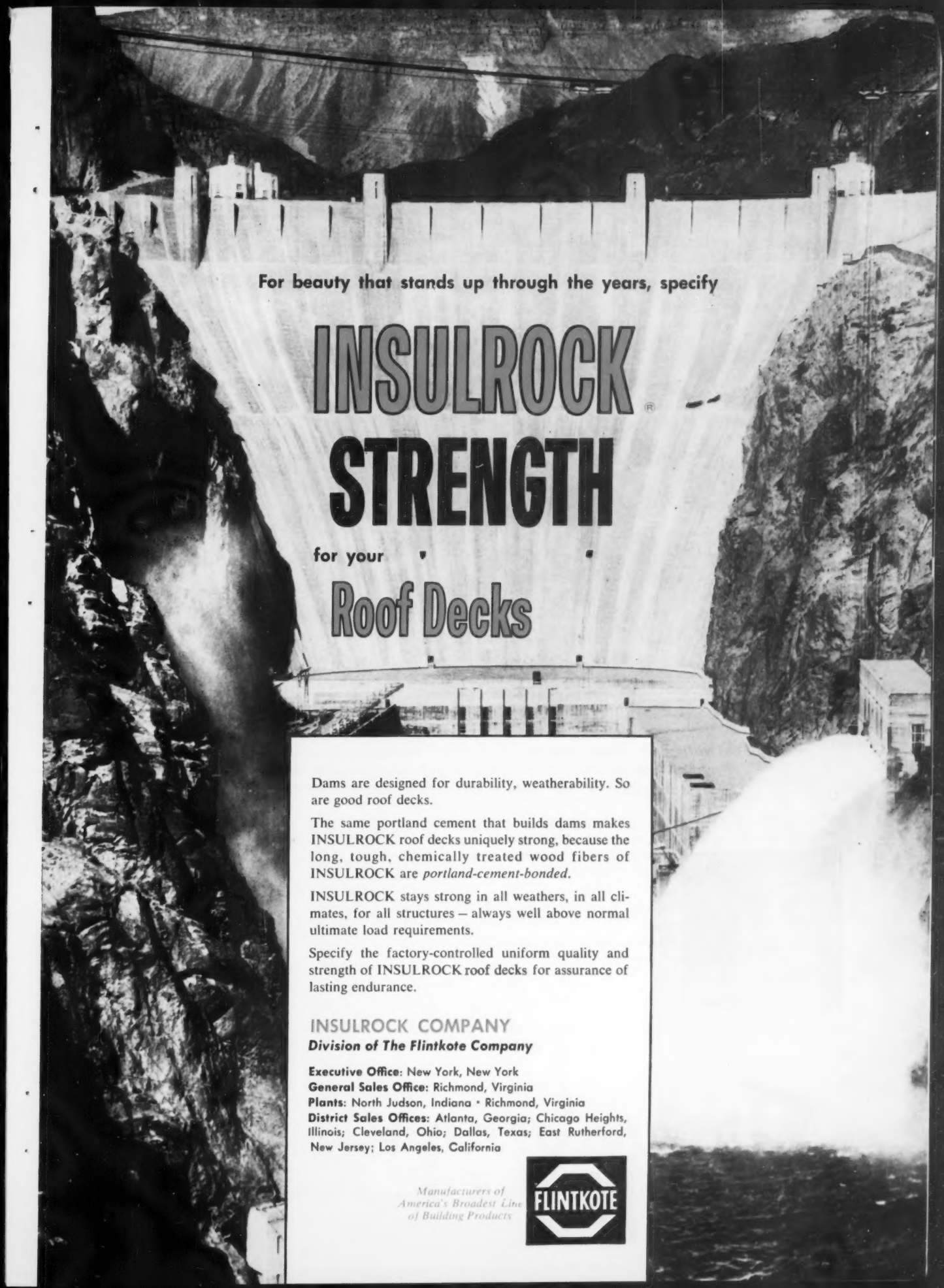
Architectural Practice. *Third edition. Clinton H. Cowgill and Ben John Small. Reinhold Publishing Corp., 430 Park Ave., New York, N. Y., 1959. 288 pp. $12.50*

Handbook of Architectural Practice. *Eighth edition. Edited by Clinton H. Cowgill. The American Institute of Architects, 1735 New York Ave., N. W., Washington, D. C., 1958. $8*

These two books supplement each other; and also have many features in common. The editor of *Handbook of Architectural Practice* is one of the authors of *Architectural Practice.*

Both of the books treat the everyday problems occurring in architectural practice in a thorough fashion. Similar facets of the problems are discussed in each work in a slightly different manner; each has a number of topics which are not included in the other. Together

(Continued on page 212)



For beauty that stands up through the years, specify

INSULROCK®

STRENGTH

for your

Roof Decks

Dams are designed for durability, weatherability. So are good roof decks.

The same portland cement that builds dams makes INSULROCK roof decks uniquely strong, because the long, tough, chemically treated wood fibers of INSULROCK are *portland-cement-bonded.*

INSULROCK stays strong in all weathers, in all climates, for all structures – always well above normal ultimate load requirements.

Specify the factory-controlled uniform quality and strength of INSULROCK roof decks for assurance of lasting endurance.

INSULROCK COMPANY

Division of The Flintkote Company

Executive Office: New York, New York
General Sales Office: Richmond, Virginia
Plants: North Judson, Indiana · Richmond, Virginia
District Sales Offices: Atlanta, Georgia; Chicago Heights, Illinois; Cleveland, Ohio; Dallas, Texas; East Rutherford, New Jersey; Los Angeles, California

Manufacturers of America's Broadest Line of Building Products

FLINTKOTE

scope*

*STROMBERG CENTRAL OPERATIONS PANEL—ELECTRIC

Easily and economically installed, SCOPE conserves power, fuel and water, actually lengthens the life of associated operational equipment by tailoring "on" time to fit specific program requirements.

Now . . . from a recognized leader in the field of intricate timing devices and time control systems comes SCOPE (Stromberg Central Operations Panel—Electric).

SCOPE controls remote equipment *without* special or additional system wiring.

On a pre-determined schedule, SCOPE automatically controls the "on" and "off" operation of equipment in schools, offices, industrial plants, department stores and public buildings of all kinds. Thanks to such components as Stromberg's renowned Master Clock, Program Instruments and Electronic Transmitter, SCOPE can control up to 60 electronic circuits.

With the addition of auxiliary panels, it can control up to 160 circuits on one electronic frequency.

Operating with *four* frequencies, a single SCOPE panel will control 640 circuits.

In any standard installation, SCOPE will "mastermind" the programmed operations of heating and air conditioning, lighting, clocks, audible signals, attendance recorders, time stamps, locks, pumps, valves and motors.

A complete catalog—TIME AND SIGNAL EQUIPMENT—prepared especially for Architects and Engineers—is yours for the asking.

Stromberg **TIME CORPORATION**

MAIN STREET, THOMASTON, CONNECTICUT

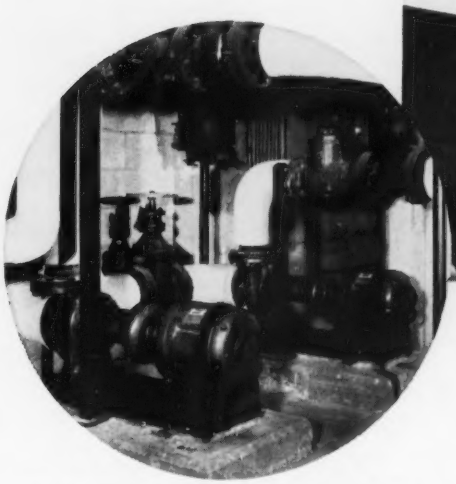
GT GENERAL TIME

SUBSIDIARY OF GENERAL TIME CORPORATION

Sales & Service Offices throughout the U. S. A.

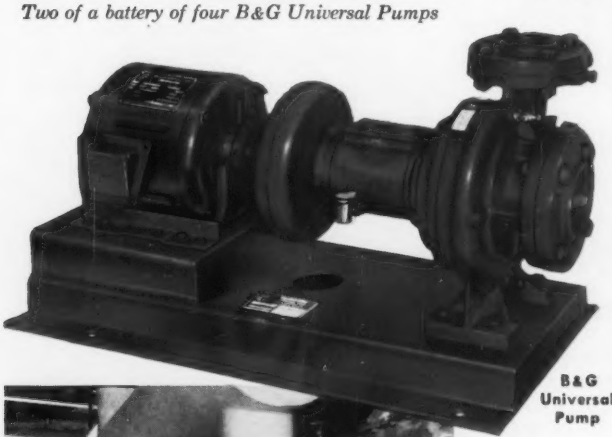
UNIVERSITY OF WASHINGTON
LANDER HALL—MEN'S DORMITORY

Architect: Young, Richardson & Carlton
Engineer: Bouillon, Griffith and Christofferson
General Contractor: John H. Sellen Construction Co.
Mechanical Contractor: L. G. Massart Co.

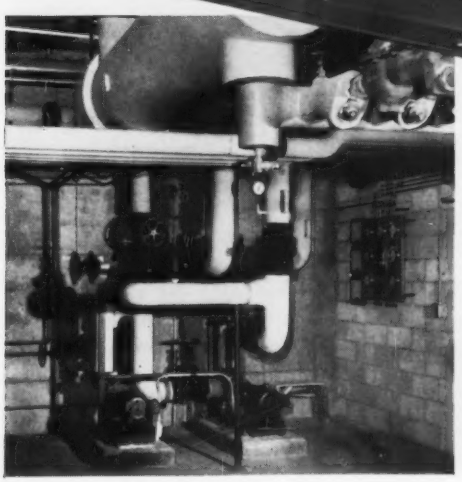


Two of a battery of four B&G Universal Pumps

B&G UNIVERSAL PUMPS SELECTED FOR DORMITORIES WHERE QUIET IS ESSENTIAL



B&G Universal Pump



Remaining two B&G Universals; above them is a B&G Type "SU" Heat Exchanger.

In buildings where students both study and sleep, *quiet* is needed to derive the greatest benefit from both. That is why B&G Universal Pumps are often selected by mechanical engineers for college dormitories where they circulate forced hot water heating systems without vibration or noise which could be created by improperly selected pumps.

For institutional, commercial or residential jobs, B&G Booster and Universal Pumps are engineered and built for just one purpose: to meet the exacting demands of water heating and cooling systems dependably, smoothly, *quietly*. They are built with such features as special, more costly motors, tested for silent running...oversized shafts of hardened steel alloy...long sleeve bearings...noise dampening spring couplers...oil lubrication and leak-proof "Remite" mechanical seals.

Specify B&G Circulating Pumps where quiet dependability is essential...*over 3,000,000 are in operation today!*

BELL & GOSSETT
COMPANY
Dept. FT-37, Morton Grove, Illinois

Reg. U. S. Pat. Off.

Canadian Licensee: S. A. Armstrong Ltd., 1400 O'Connor Drive, Toronto 16, Ontario

This New Door Guide Can Cut Costs at Every Opening!

Write today for this complete up-to-the-minute information on:

KINNEAR Steel Rolling Doors — with the coiling upward action of the famous interlocking-steel-slat curtain (originated by Kinnear). They save space, save time, provide all-metal protection.

KINNEAR Rolling Fire Doors — the exclusive, all-steel "Akbar" doors, famous for positive starting action, safe closing speed, other advanced features.

KINNEAR Steel Rolling Grilles — the protective openwork of steel bars and links with coiling upward action. Admits light, air, and vision when closed — but blocks all intruders.

KINNEAR Motor Operators — Special, rugged, heavy-duty motors that add time-saving push-button control to the many other advantages of upward-acting doors.

KINNEAR Bifold Doors — Heavy-duty service doors of wood or all-steel. Center-hinged to fold upward with easy jack-knife action.

KINNEAR Rol-Top Doors — Sectional doors (wood or all-steel) available paneled for glass in any number of sections.

Write TODAY

The KINNEAR Mfg. Co.
FACTORIES:
900-20 Fields Avenue, Columbus 16, Ohio
1742 Yosemite Ave., San Francisco 24, Calif.
Offices and Agents in All Principal Cities

KINNEAR
ROLLING DOORS
Saving Ways in Doorways

reviews

(Continued from page 208)

they make up a collection of facts, forms, and information of great value to anyone connected with the practice of architecture.

It is regrettable that *Handbook of Architectural Practice* did not have the benefit of skilled editing of the copy. This reviewer noticed in the published text many of the same faults which he pointed out in the preliminary text: simple grammatical errors, inferior diction, lack of precision and clarity, and informal expressions such as "pie-in-the-sky" which do not add to the stature of the work. Good intentions and a great amount of hard work (obvious in this case) do not necessarily result in a great book.

LAWRENCE E. MAWN
Alhambra, Calif.

finale to scholarly study

History of Technology. Vol. I: From Early Times to Fall of Ancient Empires. Vol. V: The Late Nineteenth Century. *Edited by Charles Singer, E. J. Holmyard, A. R. Hall, and Trevor I. Williams. Oxford University Press, 417 Fifth Ave., New York, N. Y., 1954, 1958. Vol. I: 892 pp., illus., 36 halftone plates; Vol. V: 926 pp., illus., 44 halftone plates. $26.90 each.*

The fifth volume of the *History of Technology* completes this monumental undertaking, of which the second, third, and fourth tomes were reviewed in previous issues (SEPTEMBER 1957, OCTOBER 1958 P/A). A glance at the first volume, *From Early Times to Fall of Ancient Empires* (not yet discussed) may be allowed in this context. It must be emphasized again that "to review in detail a book of the scope of this general *History of Technology* would be a superhuman enterprise, as it is encyclopedic in length as well as coverage." Comparing the first and the fifth volumes, both results of painstaking research and thorough knowledge of the respective material, one is struck by how much the relation between technology and architecture has changed.

(Continued on page 218)

Niagara County Court House
Lockport, New York
Architect:
Cannon Thiele Betz & Cannon

series 5212 for multi-level structures

engineered to slash erection time

MARMET curtainwall

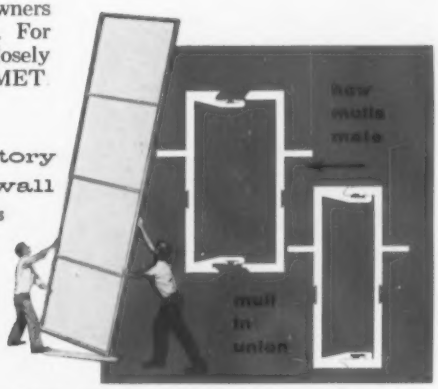
To assist architects in developing outstanding contemporary designs on closely bid work . . . MARMET has engineered two forms of curtainwall . . . each type erected differently . . . yet in each one labor assembly time is cut significantly. Result: more structures can be sheathed in gleaming aluminum . . . with no sacrifice in quality even on tightly budgeted jobs. And, special dip treatment for every kind of finish, keeps MARMET fenestration "gleaming new" indefinitely . . . saving owners the cost of periodic maintenance painting. For successful execution of your next closely bid job . . . specify MARMET

wall panels stack from inside

Once the large, vertical mulls are hung from each story of the building . . . lite sections and wall panels can be stacked one atop the other. Units are small enough that two men can easily handle and install them . . . working from the inside in most cases . . . saving the time and cost of erecting scaffolding.

Cheshire Kyger Elementary School
Gallia County, Ohio
Architect:
Lage, Drest & Walter

series 6442-43 for 1 story or multi-story gridwall structures



large interlocking grids

Available with mating vertical mulls, 4½" or 6" deep for a varying of shadow lines, the large interlocking grids of this series can quickly be erected by two men. Mortise and tenon joints are connected with bolts, carefully concealed by the glass race. Special expansion joints are employed at the proper intervals.

For detailed specifications on the complete line of MARMET products —consult Sweet's Catalog File No. 3a Mar. or write to MARMET for Catalog 59a, 59c, and 59d.

MARMET Corporation

322-G Bellis Street, Wausau, Wisconsin

A9-511

Put 4 design constants in every curtain wall panel with an insulating core of FOAMGLAS.® Here is the one core insulation with a combination of properties perfectly matched to the major needs of good curtain wall panel design. Take **FLATNESS.** The flat, even blocks of FOAMGLAS maintain a permanent, overall thickness tolerance of $\pm 1/32$"... prevent oil canning or dimpling. And **STRENGTH.** The high compressive strength of FOAMGLAS makes it particularly suitable as a core material for the laminated type of panel construction. Add **CONSTANT U-VALUE.** The sealed cellular structure of FOAMGLAS keeps out all moisture to insure permanent insulating effectiveness. And don't overlook **DIMENSIONAL STABILITY.** Since it won't warp, swell, slump or sag and has sufficient shear strength to prevent panel separation, FOAMGLAS insures fully rigid panels. Find out more about these and the many other benefits FOAMGLAS brings to curtain wall panels. Send for our new curtain wall brochure. Pittsburgh Corning Corporation, Dept. AB-69, One Gateway Center, Pittsburgh 22, Pa. In Canada: 3333 Cavendish Blvd., Montreal, Quebec.

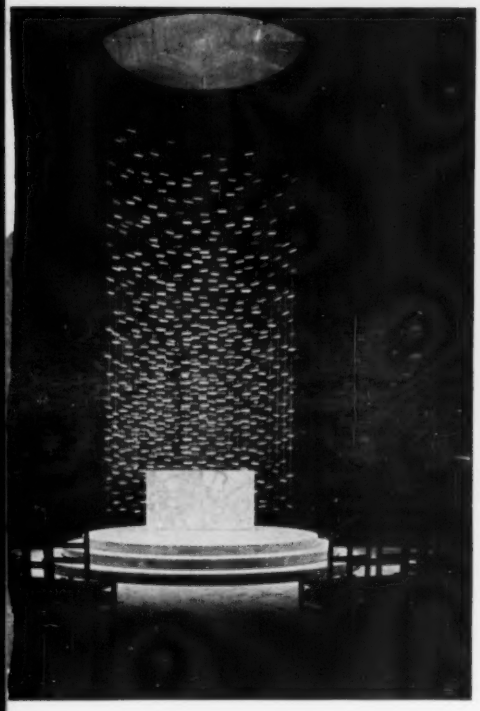
FLATNESS

STRENGTH

CONSTANT U-VALUE

DIMENSIONAL STABILITY

PITTSBURGH PC CORNING



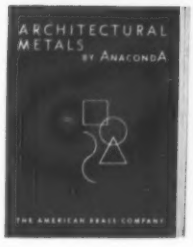
A few of the many full-color illustrations in the 64 pages of fresh ideas and design data on the use of Anaconda Architectural Metals now available to architects, designers and fabricators. *Upper right:* Red Brass handrails and balusters. Column is wrapped with woven Bronze wire partially colored. *Lower right:* Interlocking Bronze extrusions form wall panels. *Upper left:* Nickel Silver and Architectural Bronze in a setting of black and white marble. *Lower left:* Welded-sculpture screen of Brass and Bronze.

Only with copper alloys can you achieve this dignity, warmth and elegance

Ways in which the variety of textures, forms and warm, rich colors of Anaconda Architectural Metals have been utilized to translate distinctive architectural concepts into reality are detailed in our new publication "Architectural Metals" by Anaconda. It is the first comprehensive book on the architectural uses of copper and copper alloys, and covers both interior and exterior applications.

Its 64 pages also give practical and detailed information on the available metals, their compositions, colors, forms, physical properties, architectural applications, instructions for obtaining various finishes, detailed specifications and many pages of fabricators' shop drawings. Send today for your copy. Address: The American Brass Company, Waterbury 20, Conn. In Canada, Anaconda American Brass Ltd., New Toronto, Ont.

5922



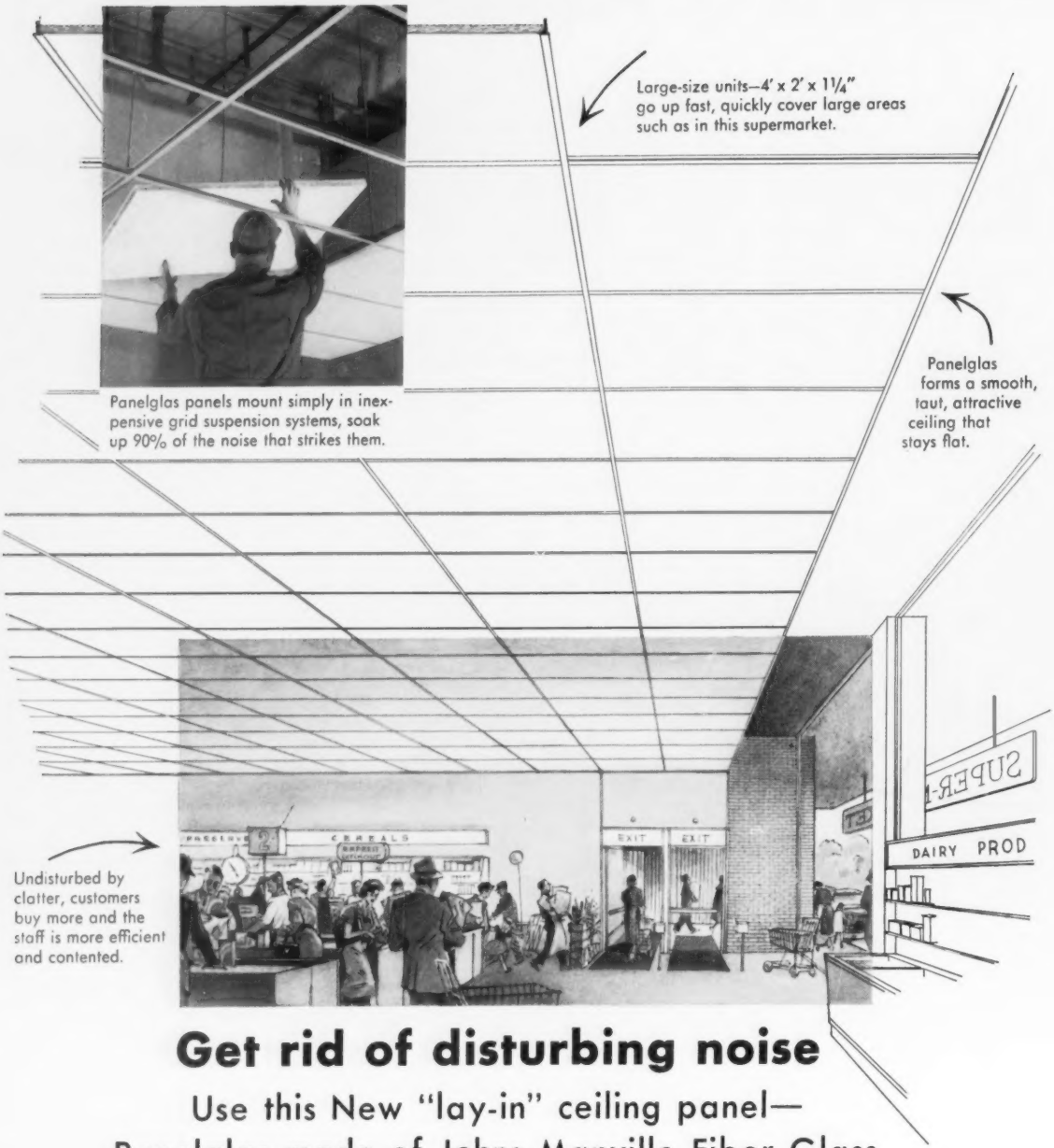
Write today on your firm's letterhead requesting your copy of Architectural Metals by Anaconda, Publication B-15.

BRONZE—THE ARCHITECTURAL METAL OF DISTINCTION

ANACONDA®

ARCHITECTURAL METALS

Made by The American Brass Company


Large-size units—4′ x 2′ x 1¼″ go up fast, quickly cover large areas such as in this supermarket.
Panelglas panels mount simply in inexpensive grid suspension systems, soak up 90% of the noise that strikes them.
Panelglas forms a smooth, taut, attractive ceiling that stays flat.
Undisturbed by clatter, customers buy more and the staff is more efficient and contented.
CEREALS
EXIT
EXIT
DAIRY PROD

Get rid of disturbing noise

Use this New "lay-in" ceiling panel— Panelglas made of Johns-Manville Fiber Glass

Panelglas soaks up as much as 90% of the sound waves that strike it—deadens disconcerting din. At the same time it makes a good-looking, slightly textured, light-reflecting ceiling.

Panelglas units are large—2′ x 2′ or 2′ x 4′. They are unusually light—fit easily and quickly into suspended grid systems. They can be readily removed for access to overhead fixtures.

For greater efficiency of staff . . . for more comfortable customers, end distracting noise with a ceiling of Panelglas . . . a ceiling that can be installed at exceptionally low cost. To get all the details, write to Johns-Manville, Box 158, New York 16, New York. In Canada, address Johns-Manville Company, Limited, 565 Lakeshore Road East, Port Credit, Ontario.

OTHER JOHNS-MANVILLE ACOUSTICAL PRODUCTS

- *SANACOUSTIC®*
- *PERMACOUSTIC®*
- *DRILLED MINERAL TILE*
- *FIBRETONE®*

JOHNS-MANVILLE

JOHNS-MANVILLE JM PRODUCTS

Caterpillar makes tracks for coal

Seven Caterpillar Tractor Co. plants burn coal for low-cost steam generation

When seven plants of a company all burn coal—over 250,000 tons a year—you can be sure there's a *good* reason. At Caterpillar Tractor Co., where steam is used for both process work and heating, coal is burned for low-cost, efficient steam production. Because of its importance at Caterpillar, steam generation must meet the same standards of efficiency and dependability set up for all phases of plant production. As Caterpillar has expanded from one plant to many, therefore, *each* plant has burned coal.

Consult an engineering firm

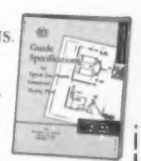
If you are remodeling or building new heating or power facilities, it will pay you to consult a qualified engineering firm. Such concerns—familiar with the latest in fuel costs and equipment—can effect great savings for you with the efficiency and economy of coal.

Coal is the lowest cost fuel

Today, *when the annual cost of fuel often equals the original cost of the boilers,* you should know that bituminous coal is the lowest cost fuel in most industrial areas. And modern coal-burning equipment gives you 15% to 50% *more* steam per dollar, while automatic operation trims labor costs and eliminates smoke problems. What's more, tremendous coal reserves and mechanized mining procedures assure you a constantly plentiful supply of coal at stable prices.

BITUMINOUS COAL INSTITUTE
Dept. PA-06, Southern Building, Washington 5, D. C.
SEE OUR LISTING IN SWEET'S

SEND COUPON FOR NEW BCI PUBLICATIONS. Guide Specifications, with complete equipment criteria and boiler room plans:



Bituminous Coal Institute **PA-06**
Southern Building, Washington 5, D. C.
Gentlemen: Please send me:
☐ GS-1 (low-pressure heating plant, screw-type underfeed stoker); ☐ GS-2 (high-pressure heating and/or process plant, ram-type underfeed stoker); ☐ GS-3 (automatic package boiler for heating and process plants). ☐ Case histories on larger plants.

Name_____
Title_____
Company_____
Address_____
City_____ Zone_____ State_____

is the ideal communications center for schools, hospitals, business

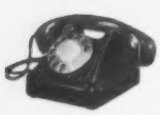
It's the complete dual channel sound distribution system. No wonder Webster Consolette is first choice where a communications system must serve varied needs . . . intercommunications, voice paging, program and music distribution. Controlled from one handsome, compact cabinet . . . easily expanded to meet growing needs with self-contained booster units that handle up to 114 stations. Includes a high-quality AM-FM radio tuner, and complete high fidelity amplification. Four speed record changer optional.

Ask your Webster Teletalk dealer for a demonstration. No obligation, of course.

** Listed in the Yellow Pages under "Intercommunication Systems"*

COMMUNICATIONS DIVISION
WEBSTER ELECTRIC
RACINE WIS
our 50th year

WEBSTER TELECOM



A privately-owned dial telephone intercommunication system. Operates like a city phone. Low cost. Easily installed.

WEBSTER TELETALK

Most versatile intercom system. Smart styling, transistors, printed circuits, Telebar touch control. 6 to 60 stations.

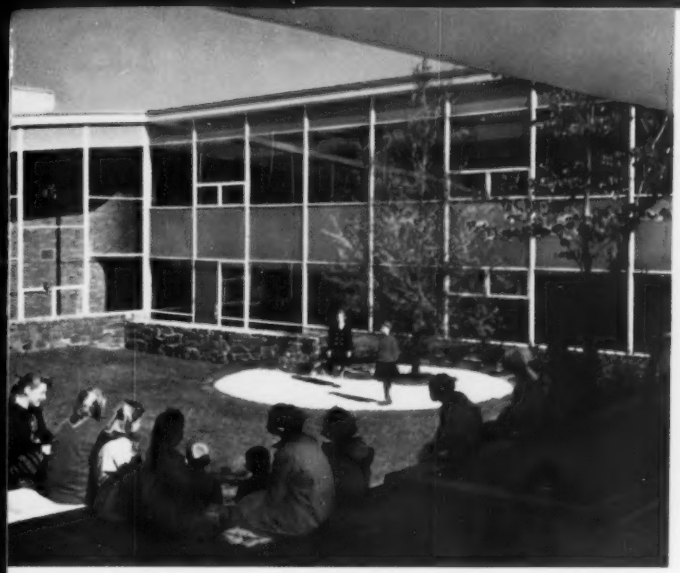
reviews

(Continued from page 212)

It is neither surprising nor original to state that in all fields of human endeavor and knowledge specialization prevails in ever increasing intensity. Even if we completely forget about the esthetic problems of stylistic developments, peripheral in this context, the variety of the basic approach to architecture in relation to other fields of human creative activity is amazing. During the period, or rather the many periods covered in the first volume, from prehistory to the downfall of the Ancient World, the history of technology seems to be the most essential part of the history of Western civilization. But an almost complete separation of technological and cultural development has taken place in the late 19th Century, as discussed in the fifth volume. And in the 20th Century, not dealt with in this comprehensive work, technology has definitely taken command. The heritage from the original *crafts*, out of which technology had developed, is completely superseded by *science*. This fact partially explains the split between technology and architecture. The emphasis on function today does not contradict this phenomenon. The functionalistic movement concerns only the suppositions of modern architecture as to material and technique and not the form of the final work, as important as its influence may be.

In Volume I, the chapters on "Working Stone, Bone, and Wood," by L. S. B. Leakey; "Building in Wattle, Wood, and Turf," by John Bradford; and "Building in Brick and Stone," by Seton Lloyd, are of special interest to the architect. But, as architects are human, too, they certainly must be interested in chapters such as "Early Forms of Society," by the great late archeologist Gordon Childe, which deals basically with the scope of technology as an aspect of history and especially of social history; "Graphic and Plastic Arts"; "Chemical, Culinary, and Cosmetic Arts"; "Recording and Writing"; and "Ancient Mathematics and Astronomy"—to mention only a few. A certain substitute for a survey of the

(Continued on page 224)



This new motion picture may help you build a fine new school

"In our time the verdict is clear . . . educate . . . and educate properly . . . or lose the race." The narrator speaks knowingly, and the people in front of the screen can't help but be impressed. Here is an intelligent motion picture that's helping to do a vital job—build better schools.

The title of the film is "Plan For Learning." It tells the story of how one community built the school it needed. It shows how the school board, the school superintendent, the architect, and the tax-paying community worked together to build a school that was big enough, attractive, *and* economical.

It wasn't an easy job. The film shows the arguments of people who opposed the construction of a new building and the logic that got it *built*. You will hear ideas that *you* may want to express some day . . . ideas that may help *you* build a better school.

The people in this story voted on the new school issue. "And so they built the new school," says the narrator. "They voted for colorful walls, for huge open windows . . . for bright functional classrooms. Most of all, they voted for the children."

This film was produced in cooperation with the American Institute of Architects and the American Association of School Administrators. Three members of each group served in an advisory capacity through all stages in developing the film. If you would like to show this film, send in the coupon below:

USS and Vitrenamel are registered trademarks

USS STEELS FOR ARCHITECTURAL DESIGN

USS Stainless Steel	USS Vitrenamel
USS Structural Steel	USS Window Sections

United States Steel

I WANT TO BORROW THIS FILM—

United States Steel Film Distribution Center
Room 6007
525 William Penn Place
Pittsburgh 30, Penna.

I would like to show "Plan For Learning" to _____
(type of group)

on the following date: _____. *There will be about*
(preferred date and an alternate)

_____ *people in the audience. Please send complete booking information.*

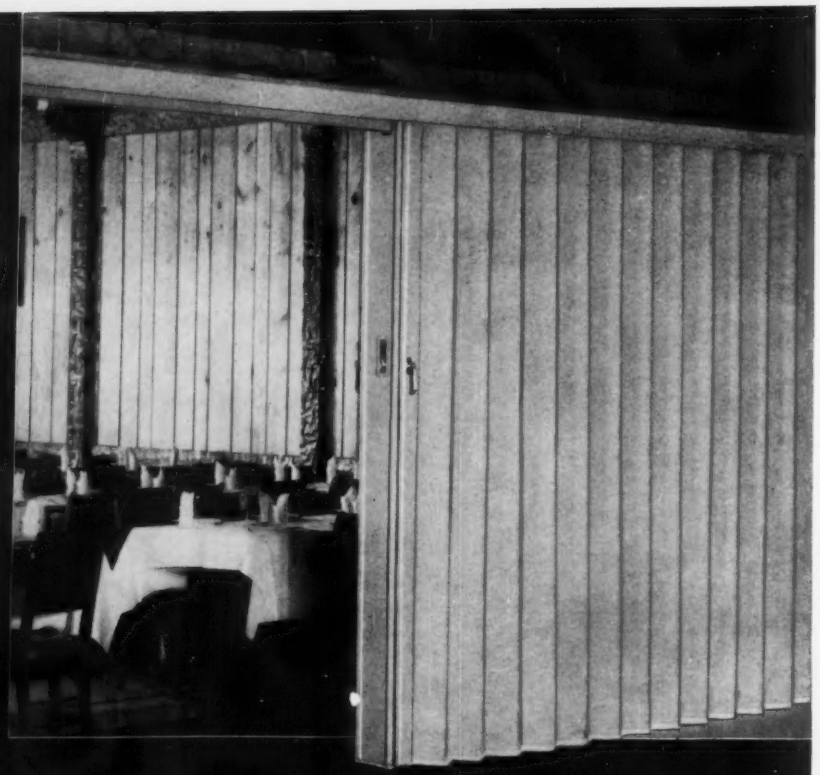
Name & Title _____

Address _____

City _____ **State** _____

(This film is available after July 1. There is no charge. Viewing time: 27 minutes. 16 mm, color, sound)

SEPARATE SOUND WHEN YOU SEPARATE SPACE



with new dual sound-retardant Foldoor partition

Robin Hood Inn, Clifton, New Jersey

LOOK AT THE ADVANTAGES ONLY THE NEW SOUND-RETARDANT FOLDOOR OFFERS

Equivalent in sound reduction to the following types of construction materials:

3 inch Solid Wood Door with Cracks Sealed

2 inch Solid Gypsum Tile Wall with ½" Plaster

3 inch Solid Gypsum Tile Wall

Wood Stud Wall with Metal Lath and Gypsum Plaster

• Minimum space requirements • Easy to operate • No floor guides • Will not bind from slight ceiling sag • Beautiful decorator fabrics • All meeting points tightly sealed • Installed weight is approximately 5.25 pounds per square foot, about half of which is represented by the four dense layers of complementary insulation.

In Canada:
FOLDOOR of CANADA,
Montreal 26, Quebec

It's easy to see why new Dual Sound-Retardant Foldoor Partition is already being specified for so many multi-use facilities. This important Foldoor product offers all the versatile convenience and beauty of the fabric-covered folding door—combined with the practicality of a general purpose, maximum sound-retardant partition.

When it separates space—it separates sound. The advantage is obvious. Get *all* the facts . . . soon.

OTHER FOLDOOR PRODUCTS . . . Look to FOLDOOR for folding doors and partitions to meet every commercial and residential application. Both Multi-V and Multi-X models are offered in a wide variety of fabrics and colors. Full line of tracks, switches and other accessories.

SEND FOR FULL INFORMATION . . . or phone your nearest FOLDOOR distributor now.

HOLCOMB & HOKE
FOLDOOR®
FOLDING PARTITIONS AND DOORS

Sneak Preview

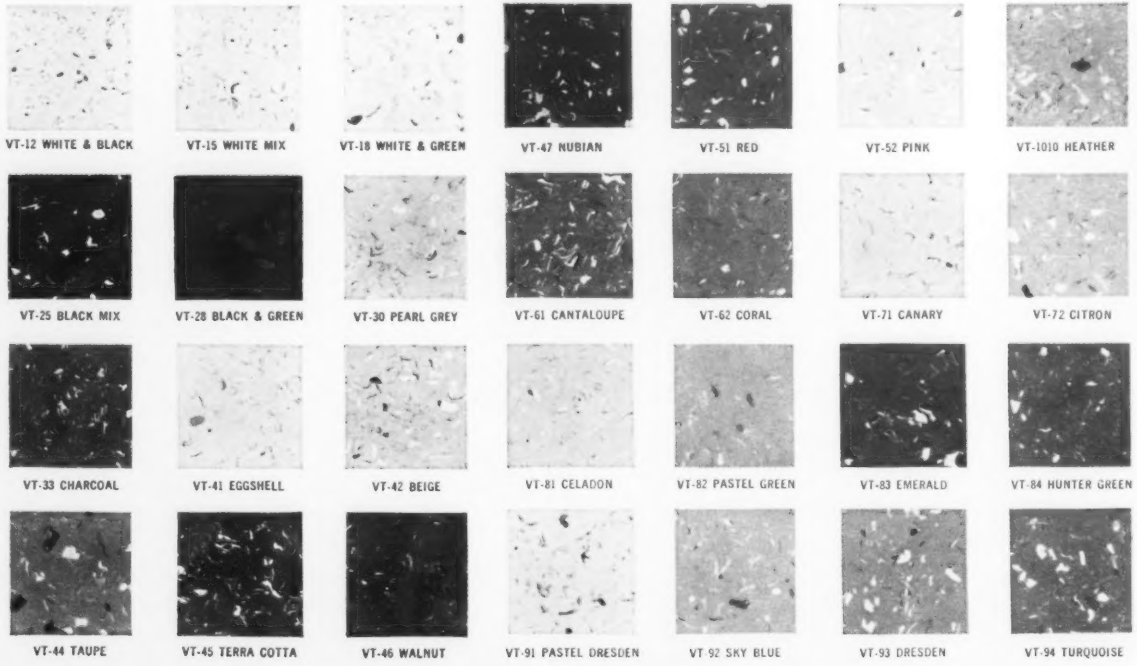
- NEW ARCHITECTURAL PRODUCTS BY HOLCOMB & HOKE
- BOOTH 2, AIA CONVENTION ROOSEVELT HOTEL • NEW ORLEANS
- JUNE 22-26

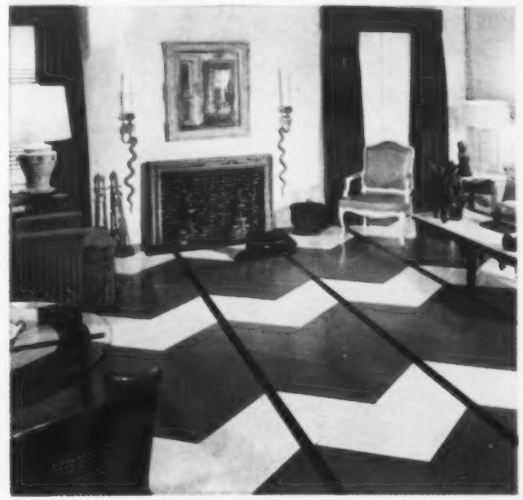
TERRAZZO DESIGN

Amtico
PERMALIFE
VINYL FLOORING

Smart New Colors Dramatize Flooring Interest

In 31 colors to contrast or harmonize with any room setting, Amtico Terrazzo Design is the most functional of working partners. Light and airy or deep and dominant, its tones exactly match those of Amtico Marbleized Colors and Plain Colors, while coordinating with other interesting Amtico designs. Colors go through and through each all-vinyl tile for long, long wear. Flexible and resilient, will not crack or tear . . . resists grease and acids. Stays new-looking . . . easy to keep clean and bright.





Living-dining room designed by Lloyd Bell

World's Largest Producer of Vinyl and Rubber Floorings

AMERICAN BILTRITE RUBBER COMPANY
TRENTON 2, NEW JERSEY

Showrooms: 295 Fifth Ave., N.Y.C. • 13-179 Merchandise Mart, Chicago
368 Furniture Mart, Los Angeles • 500 King St. W., Toronto, Ontario
In Canada: American Biltrite Rubber Company Ltd., Sherbrooke, Que.

Tear out along perforated line and file this useful fact sheet.

Amtico
PERMALIFE
VINYL FLOORING

TERRAZZO DESIGN

SPECIFICATIONS AND DATA

MATERIAL DATA

Amtico Permalife Vinyl 1/8" or .080" . . . all-vinyl, color throughout thickness • Standard tile sizes . . . 9" x 9", 12" x 12" • "Set-on" cove base . . . heights 4", 6" (plain vinyl colors only) • Feature strips (Stardust and plain vinyl colors) up to 1" wide, 36" long.

INSTALLATION DATA

Wood Subfloors—Wood subfloors to receive installation of Amtico Vinyl Flooring should be suspended above grade with at least two feet of clear ventilated area between the floor and the ground. Strip wood floors shall be smooth and of double construction with 3¼" or less boards. Plywood or equivalent should be used to cover rough boards or those over 3¼". Seams on all plywood or hardboard floors shall be sanded smooth and filled with latex type underlayment. Wood floors may be leveled and cracks filled with latex type underlayment. Install 15 lb. asphalt saturated flooring felt at right angles to the direction of the top floor boards. Cement the felt to the underfloor with a good grade of linoleum paste.

Install Amtico Vinyl Flooring with Amtico Waterproof Cement. Only sufficient cement should be spread which can be covered in 10 to 15 minutes. Use a standard notched trowel for 1/8" gauge flooring and a fine notched trowel for .080" gauge flooring. Roll the flooring with a 3-section 150 lb. roller as the work progresses and again when the installation has been completed. It is essential that the flooring be thoroughly rolled to eliminate any ridges showing through. Clean any excess cement from the floor immediately, using denatured alcohol.

Concrete Underfloors—Concrete floors to receive the application of Amtico Vinyl Flooring shall be clean, dry and free from dust, loose paint, wax, oil, grease, sealing compounds, curing compounds and loose sandy concrete. Fill all expansion joints, cracks and holes with a latex type underlayment. The same material should be used to level rough or uneven areas in the concrete. *Do not use plaster or asphaltic type patching or underlayment materials.* Do not install felt on concrete floors.

Suspended Concrete—On suspended concrete floors, install Amtico Vinyl Flooring with Amtico Waterproof Cement. Spread only as much cement as can be covered in 10-15 minutes. Roll the floor with a 150 lb. 3-section roller as the installation proceeds, and again when the installation is complete. Remove any excess cement with denatured alcohol.

On-Grade Concrete—Amtico Vinyl Flooring may be installed on an on-grade floor using Amtico Chemical Set Cement or Amtico Epoxy Cement. Wipe up any adhesive which gets on the face of the tile immediately, using a damp cloth. Roll the floor frequently with a 3-section 150 lb. roller during installation and roll again after installation is complete.

Below Grade Concrete—Amtico Vinyl Flooring may be installed in residential areas below grade using Amtico Chemical Set Cement. The floors must be dry and free from alkaline deposits. Do not install on painted concrete floors below grade. Remove paint by sanding. *On commercial installations, approval must be obtained from Amtico.*

Follow the mixing instructions on the Chemical Set Cement label. Do not mix more adhesive than can be spread and covered in 30 minutes. Spread about ten square feet of adhesive and install the tile immediately. Wipe up any adhesive which gets onto the face of the tile with a damp cloth. Roll the floor frequently with a 3-section 150 lb. roller as the installation proceeds and roll again after the installation is complete.

MAINTENANCE DATA

A new Amtico Terrazzo Design installation shall be kept free of traffic until cement is thoroughly dry and hard (approx. 24 hours). Do not wash floor for 48 hours after installation. Damp mop the floor with Amtico Floor Cleaner or mild suds or detergent. Floors subject to heavy, dirty traffic can be cleaned with #00 grade steel wool. Use proper glides and casters on all furniture. Do not use paste wax. A coat of Amtico Floor Dressing adds to the glossy appearance of the floor and minimizes maintenance.

Designed by Tommi Parzinger

Designed by William Pahlmann Associates

Other outstanding Amtico Vinyl installations: Toffenetti Restaurant, Chicago; Ball State Teachers' College, Muncie, Ind.; Hotel Kenmore, Boston; Arnold Constable Store, Trenton, N. J.; N. Y. Central Railroad, Cleveland; Temple Medical School, Philadelphia.

AMTICO, Dept. PA-2, Trenton 2, N.J.

Please send detailed literature and FREE complete set of Amtico Vinyl and Rubber Flooring samples to:

Name_____

Firm_____

Address_____

City_____ Zone_____ State_____

(Please attach coupon to your business card or letterhead)

World's Largest Producer of Vinyl and Rubber Floorings

AMERICAN BILTRITE RUBBER COMPANY

TRENTON 2, NEW JERSEY

Showrooms: 295 Fifth Ave., N.Y.C. • 13-179 Merchandise Mart, Chicago • 368 Furniture Mart, Los Angeles • 500 King St. W., Toronto, Ont.
In Canada: American Biltrite Rubber Company Ltd., Sherbrooke, Que.

How a supermarket saved money with an incombustible acoustical ceiling

Gold Bond Acoustiroc looks expensive but really isn't. True, it's Class A incombustible, but in this case Acoustiroc actually *saved* money for the owners. By using a suspended ceiling of incombustible tiles they were able to eliminate one whole element of construction. This cut $2000 off the cost of the building and gave them a fine acoustical ceiling too.

Acoustiroc's three beautiful patterns have NRC's up to .85. Textured (above) reflects up to 91% of light. Stable in many high humidity conditions, Acoustiroc can be used in high-traffic areas, near entrances, etc. And it's a deluxe tile at no higher price.

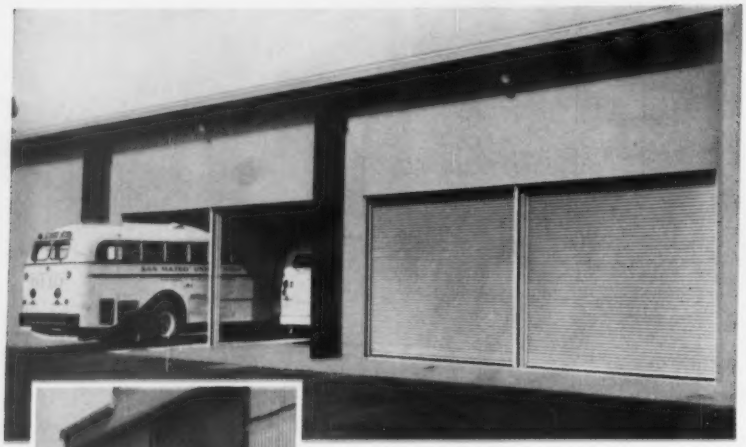
Ask your Gold Bond® representative about our complete selection of incombustible acoustical products. Or write Dept. PA-69 for the Acoustiroc technical bulletin.

NATIONAL GYPSUM COMPANY, BUFFALO 13, NEW YORK

Gold Bond
BUILDING PRODUCTS

a step ahead of tomorrow

Easier to Specify, Install, Operate and Maintain



—whether for standard or special conditions

COOKSON

STEEL ROLLING DOORS

Cookson Doors meet the most rigid specifications for every type of heavy building construction. They provide the greatest possible protection against damage of every kind. Their easier installation, operation and lower maintenance are a matter of record. They can't stick, swell, bind, split or crack. And where weather is a critical problem, Cookson offers such optional features as guide-channel weather stripping, weather-proof "flat-slat" construction, and all-weather rubber astragal or floor-strip. Every Cookson Door is custom built to the job, fully guaranteed, and complete specifications are filed in Cookson's *Permanent Door Registry*. For full details, request Bulletin No. 901.

You Get all this with **COOKSON**

- **Widest variety of long-proven design features to meet every standard and special problem.**
- **Greatest protection against weather, breaking in, fire, general damage.**
- **Installed cost competitive to sliding or sectional doors, with all the advantages of rolling door design.**
- **Choice of four operating methods: motor, chain, crank or manual.**

COOKSON®

SEE SWEET'S

THE COOKSON COMPANY
1529 Cortland Ave., San Francisco, Calif.
"Alumilited" Counter Doors
Rolling Service Doors, "Servire" Fire Doors, and Grilles
Side Coiling Wood Partitions · Specialty Doors

COUNT ON **COOKSON** DOORS . . . *"The Best Way to Close an Opening"*

reviews

(Continued from page 218)

parallel development of social history is provided for by the excellent and very instructive chronological tables by F. E. Zeuner, which represent synchronistic charts, beginning with the chronology of the earth in million years through the geological and anthropological ages to the late prehistoric and historic periods. We see that skill, as such, is just a general capacity of the human being, from the development of the initial features of neolithic culture on, when the hunter and fruit gatherer first became a farmer and stock breeder, probably the most significant centuries in the history of human progress. In this context, the history of building represents not merely another version of history of architecture, but rather a history of technical progress, without considering the changes of the individual stylistic periods in time and space.

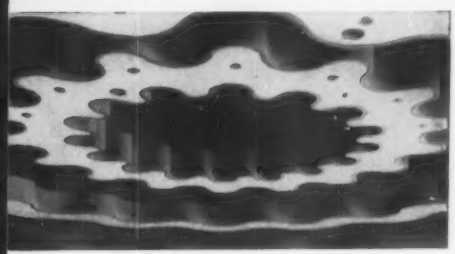
How different are the aspects of the last volume dealing with the second half of the 19th Century! The growth of the various industries, from steel to petroleum, from combustion engines to electricity, and especially the history of synthetic chemicals, of the textile industry, and machine tools, with their implications on the general economic condition takes the fore. In Part VI, devoted to "Civil Engineering," only the articles on "Building Materials and Techniques," by S. B. Hamilton, and on "Bridges and Tunnels," by H. Shirley Smith, refer somewhat to architecture.

As inseparable as were architectural developments and technical problems in earlier periods, so they diverge notably through the greater part of the 19th Century. Technology creates new materials and new techniques which are used in architecture to express new architectural concepts. But they themselves do not create architecture as they did in former times. Thus architecture plays a much lesser part in the last volume. Nevertheless, from the general point of view, the story of technology certainly becomes no less fascinating.

PAUL ZUCKER
New York, N. Y.

(Continued on page 232)

DIPLOMAT HOTEL, Hollywood, Florida.
Architects: Norman M. Giller and Associates of Miami Beach, Florida.
Plastering Contractor: U. S. Plastering Co. of Miami, Florida.



Unusual acoustical ceilings, sprayed on!

These ceilings of softly-textured beauty in Florida's new Diplomat Hotel were produced with Gold Bond Sprayolite Acoustical Plaster. Sprayed on, it has excellent noise reduction characteristics to keep even the gayest crowd-noises down to a pleasant murmur.

Sprayolite goes on fast, leaves no joinings and dries to form a highly efficient acoustical ceiling of uniform color and texture. Unpainted Sprayolite provides high light reflection (up to 65% for Natural White; up to 72% for Superwhite). In the Diplomat Hotel some of the Sprayolite ceilings were painted for a special decorative effect.

Get detailed information about Sprayolite from your Gold Bond® representative. Or for technical bulletin, write Dept. PA-69.

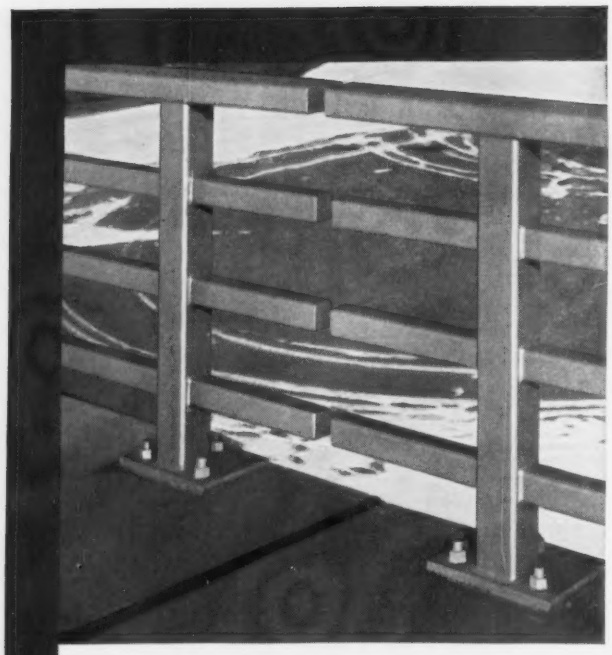
NATIONAL GYPSUM CO., BUFFALO 13, N.Y.

Gold Bond
BUILDING PRODUCTS

a step ahead of tomorrow

Design with REPUBLIC ELECTRUNITE TUBING

squares, rounds, rectangles ...in peripheries up to 20 inches



Republic ELECTRUNITE Tubing in sizes of 2″ x 4″ Rectangles, 4″ x 4″ Squares, and 5″ x 3½″ Rectangles, is available for bridge railings such as used in the construction of this modern state throughway. Strong, lightweight ELECTRUNITE Tubing offers freedom in design . . . is both functional and beautiful.

Republic ELECTRUNITE® Tubing offers architects and engineers a building material with unlimited freedom in design. Both beautiful and functional.

Greater strength—less weight. Round tubing with its high strength-to-weight ratio is an ideal structural material for schools and shopping centers. Weight is uniformly distributed from the center of gravity. Uniformity of ELECTRUNITE many times permits the use of thinner sections, eliminates excessive dead weight. Because tubing is lighter, it is easier to handle. Reduces transportation costs, too.

Smooth, unbroken surfaces of ELECTRUNITE resist moisture and corrosion. No sharp corners or bare edges, less chance for personal injuries. Easy to join to other members. Weldable. Eliminates costly false fronts and wasted space. Ideal for skin type construction. Can be painted or furnished galvanized. Available in carbon steels 1010 through 1035, and R-50, Republic's high strength, low alloy product.

Republic ELECTRUNITE Carbon Steel Tubing is available in rounds up to 6″ O.D., squares up to 5 inches a side, and rectangular sizes in peripheries to 20 inches. Stainless Steel ELECTRUNITE is available in sizes up to 5″ O.D., square and rectangular sizes in peripheries to 16 inches. All in a wide range of wall thicknesses, some up to .250″ wall.

For beauty, strength, durability . . . design with ELECTRUNITE. For additional information call your Republic representative. Or, write today.

REPRESENTATIVE SIZES AVAILABLE—WRITE FOR COMPLETE SIZE CHART

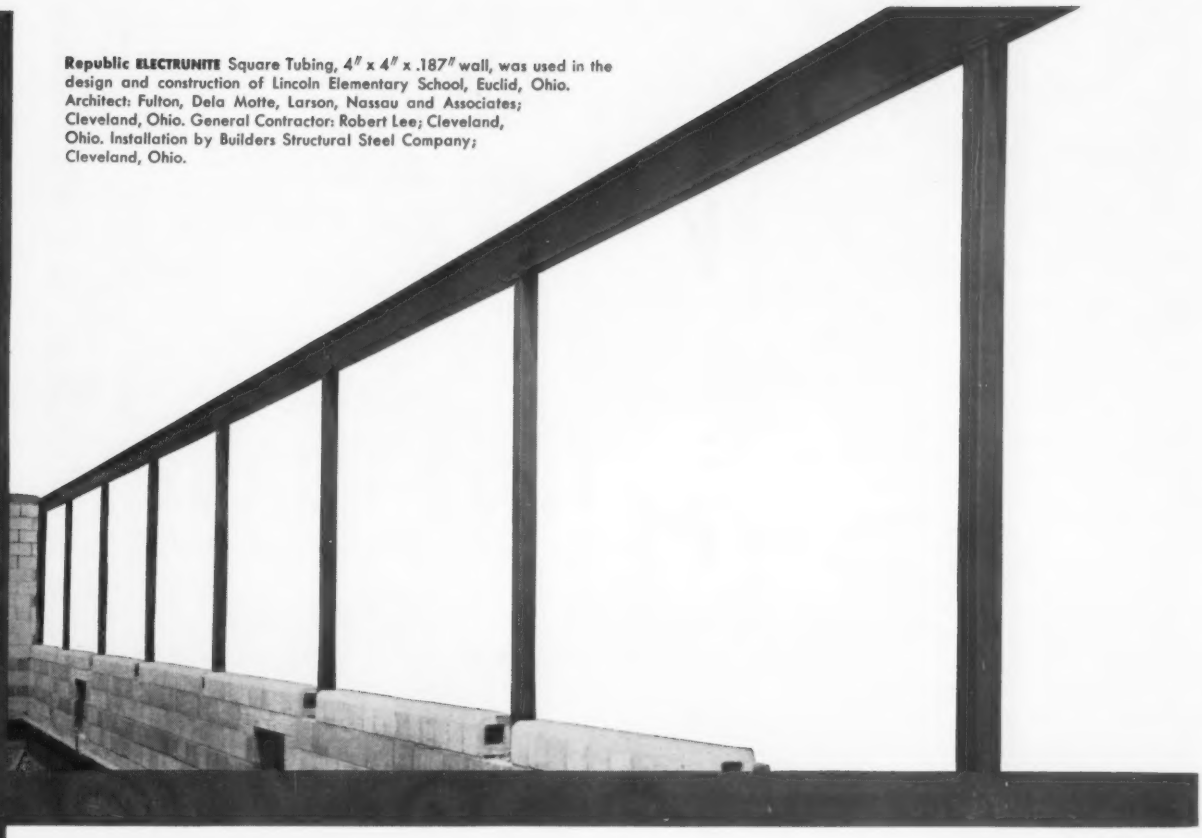
CARBON STEELS

○ ROUND SIZES—B.W.G.												
O. D.	18	16	14	12	11	10	9	8	7	6	4	.250
1″	○	○	○	○	○	○	○	○	○	○		
2″	○	○	○	○	○	○	○	○	○	○		
2½″	○	○	○	○	○	○	○	○	○	○		
3″	○	○	○	○	○	○	○	○	○	○	○	○
3½″	○	○	○	○	○	○	○	○	○	○	○	○
4″	○	○	○	○	○	○	○	○	○	○	○	○
4½″	○	○	○	○	○	○	○	○	○	○	○	○
5″		○	○	○	○	○	○	○	○	○	○	○
6″		○	○	○	○	○	○	○	○	○	○	○

□ SQUARE SIZES—B.W.G.												
O. D	18	16	14	13	11	10	9	8	7	6	5	.250
½x½	□	□	□									
¾x¾	□	□	□	□	□							
1x1	□	□	□	□	□							
1½x1½	□	□	□	□	□	□	□	□	□			
2x2	□	□	□	□	□	□	□	□	□	□		
2½x2½	□	□	□	□	□	□	□	□	□	□	□	
3x3	□	□	□	□	□	□	□	□	□	□	□	□
4x4			□	□	□	□	□	□	□	□	□	□
5x5				□	□	□	□	□	□	□	□	□

□ RECTANGULAR SIZES—B.W.G.												
O. D	18	16	14	13	12	11	10	8	6	5	4	.250
½x1	□	□	□	□								
1x2	□	□	□	□	□	□	□					
1x3	□	□	□	□	□	□	□					
2x3		□	□	□	□	□	□	□	□	□		
2x4		□	□	□	□	□	□	□	□	□	□	□
2x5				□	□	□	□	□	□	□	□	
2½x5				□	□	□	□	□	□	□	□	□
3x5				□	□	□	□	□	□	□	□	□
4x6					□	□	□	□	□	□	□	□

Above are representative of the common available sizes. Many intermediate sizes also available. Tubes are produced by several processes in accordance with the size-gage ratio; therefore not all sizes and gages are readily available in all grades of product. Please contact your nearest Steel and Tubes Division representative for information on specific size, gage and grade desired.



Republic ELECTRUNITE Square Tubing, 4″ x 4″ x .187″ wall, was used in the design and construction of Lincoln Elementary School, Euclid, Ohio. Architect: Fulton, Dela Motte, Larson, Nassau and Associates; Cleveland, Ohio. General Contractor: Robert Lee; Cleveland, Ohio. Installation by Builders Structural Steel Company; Cleveland, Ohio.

DESIGN WITH TRUSCON VISION-VENT® WINDOW WALLS for complete flexibility. Select practically any type of window—double-hung, architectural projected, intermediate projected. Available in Truscon's SUPERCOAT finish in colors. VISION-VENT goes up easy, goes up fast. Send for brochure.

DESIGN WITH TRUSCON DONOVAN STEEL WINDOWS for projected window beauty. They fill rooms with light, provide window-wings for new creativity in architecture. Blessed Pius X Church and School Building, New Orleans, Louisiana. Architect and engineers: William R. Burk Associates. Send coupon.

DESIGN WITH TRUSCON METAL LATH for monolithic masterpieces. Truscon Metal Lath is easily shaped and curved in interesting contours. Ceilings and walls allow full decorating freedom. Truscon makes more than 40 different metal lath and accessory items. Use coupon to send for catalog.

REPUBLIC STEEL

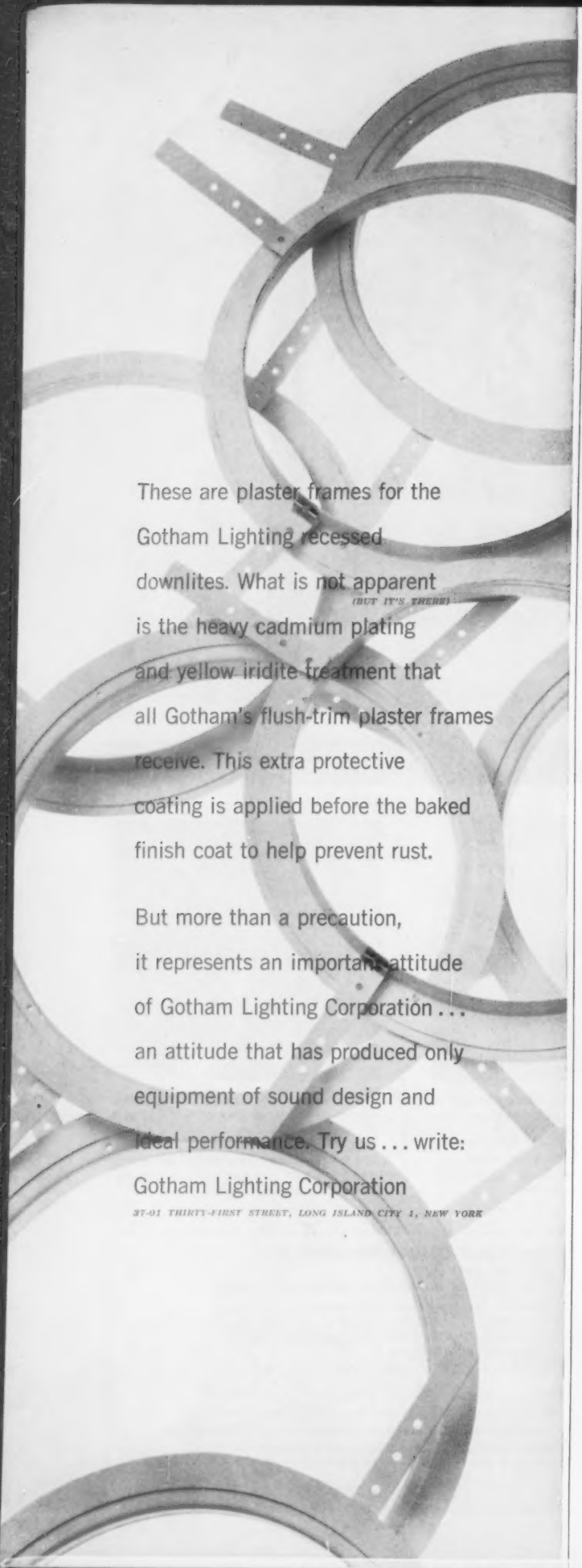
World's Widest Range of Standard Steels and Steel Products

REPUBLIC STEEL CORPORATION
DEPT. PA -7387-A
1441 REPUBLIC BUILDING • CLEVELAND 1, OHIO

Please send information on the following products:

- ☐ Republic ELECTRUNITE Tubing for architectural applications
- ☐ Truscon VISION-VENT Window Walls
- ☐ Donovan Steel Windows
- ☐ Truscon Metal Lath and Accessories Catalog

Name_____ Title_____
Firm _____
Address _____
City_____ Zone____ State_____



These are plaster frames for the Gotham Lighting recessed downlites. What is not apparent *(BUT IT'S THERE)* is the heavy cadmium plating and yellow iridite treatment that all Gotham's flush-trim plaster frames receive. This extra protective coating is applied before the baked finish coat to help prevent rust.

But more than a precaution, it represents an important attitude of Gotham Lighting Corporation . . . an attitude that has produced only equipment of sound design and ideal performance. Try us . . . write:

Gotham Lighting Corporation

37-01 THIRTY-FIRST STREET, LONG ISLAND CITY 1, NEW YORK

TODD
NEW YORK, U.S.A.

FOR BUILDINGS OF ALL TYPES

. . . first in efficiency, economy and client satisfaction.

TODD BURNERS

OIL, GAS, OIL-GAS

TODD
SHIPYARDS CORPORATION
PRODUCTS DIVISION

SALES AND SERVICE DEPARTMENTS
Columbia & Halleck Streets, Brooklyn 31, N. Y.
PLANT, SALES AND SERVICE
Houston, Texas

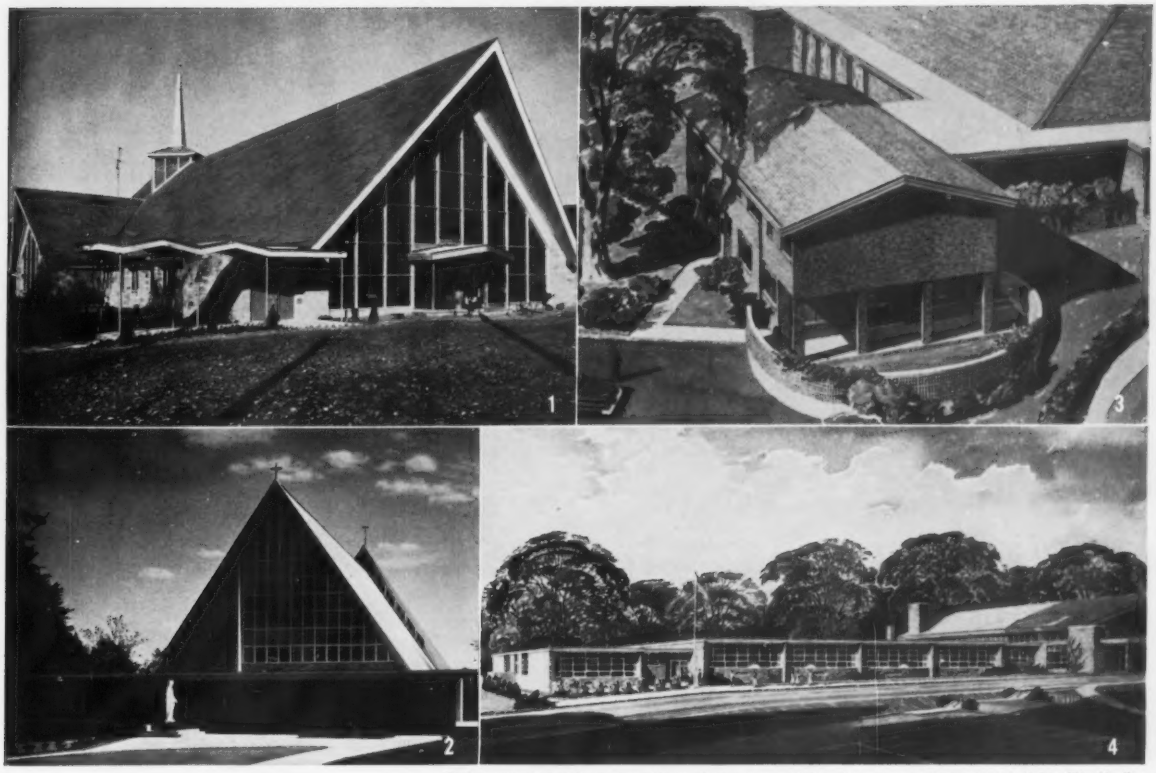
Graco Speeds "Curtain Wall" Job

Gain valuable construction time . . . specify Graco Powerflo pumps! New "direct from drum" method cuts caulking time at factory and job site!

At the "Curtain Wall" plant, Graco pumps sealed the panels for Minneapolis building (above) direct from 5 gallon cans. Slow hand methods were eliminated. Another Graco pump completed caulking on the job, enabled "hanging" to proceed quickly.

Graco's fast working pumps can help meet many tight building schedules. Send for free catalogs on complete Graco line of pumps and accessories.

GRACO
GRAY COMPANY, INC.
627 Graco Square
Minneapolis 13, Minnesota
(See Phone Book Yellow Pages, Spraying, for Graco Suppliers)



Photos reproduced above taken by (1) Miller Hoiles Studios (2) George C. Packard (3 & 4) The Zito Studios

VAMPCO ALUMINUM WINDOWS WIN 3 NATIONAL ARCHITECTURAL AWARDS IN ONE COMPETITION

Four Catholic institutional buildings with VAMPCO Aluminum Windows and Window Walls (pictured above) received national awards in the Architectural Awards Program in Catholic Institutional Design which took place in Newark, New Jersey, February 23, 1959. In the Category — "A Church Seating 400 to 1,000", Honorable Mentions were awarded to P. Arthur D'Orazio AIA Architect, Youngstown, Ohio for his (1) St. Joseph Church, Maximo, Ohio, and to Arthur Rigolo, AIA Architect, Clifton, N. J. for his (2) Church Of The Immaculate Heart Of Mary, Maplewood, New Jersey. In the Category — "A Complete Parish Plant", Arthur Rigolo received First Place for his Immaculate Heart of Mary Parish. Included in the parish are the Church (2), Rectory (3) and School (4). Vampco Aluminum windows for every type of construction are available in casement, combination casement, awning, intermediate projected, curtain walls of varying sizes and thicknesses, heavy ribbon, window walls, glass block and custom designed types. For complete illustrated literature, mail coupon below, today.

VALLEY METAL PRODUCTS CO.
PLAINWELL, MICHIGAN
SUBSIDIARY OF
MUELLER BRASS CO.
PORT HURON, MICHIGAN

See Complete File in Your Current Sweet's Catalog

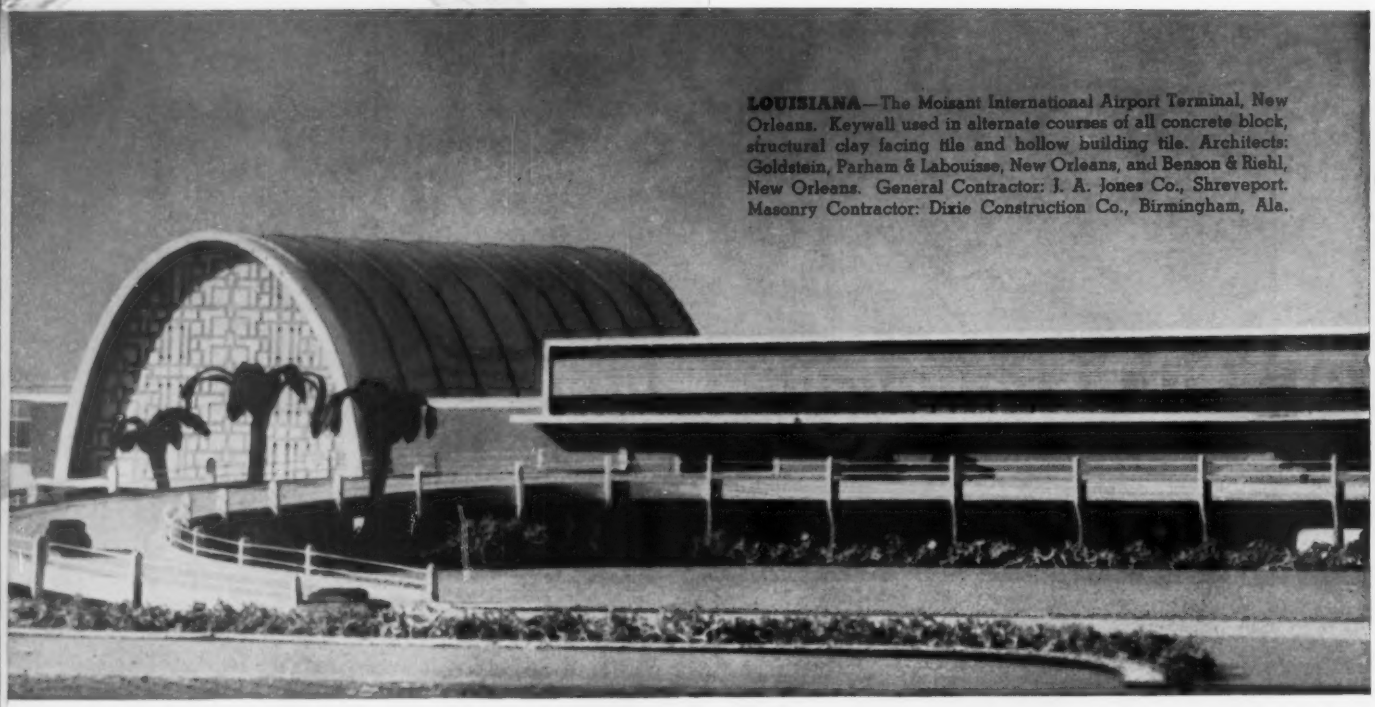
VAMPCO

A NAME THAT MEANS THE VERY FINEST IN LIFELONG ALUMINUM WINDOWS

VALLEY METAL PRODUCTS COMPANY
Dept. PA-69, PLAINWELL, MICH.

- ☐ Send 60-page Industrial-Institutional Window Catalog.
- ☐ Send Light Construction Aluminum Window Catalog.
- ☐ Send Curtain Wall Catalog.
- ☐ Send Entrance-Door Catalog.

NAME .....
COMPANY .....
ADDRESS .....
CITY .....ZONE....STATE.....



LOUISIANA—The Moisant International Airport Terminal, New Orleans. Keywall used in alternate courses of all concrete block, structural clay facing tile and hollow building tile. Architects: Goldstein, Parham & Labouisse, New Orleans, and Benson & Riehl, New Orleans. General Contractor: J. A. Jones Co., Shreveport. Masonry Contractor: Dixie Construction Co., Birmingham, Ala.

the South turns to

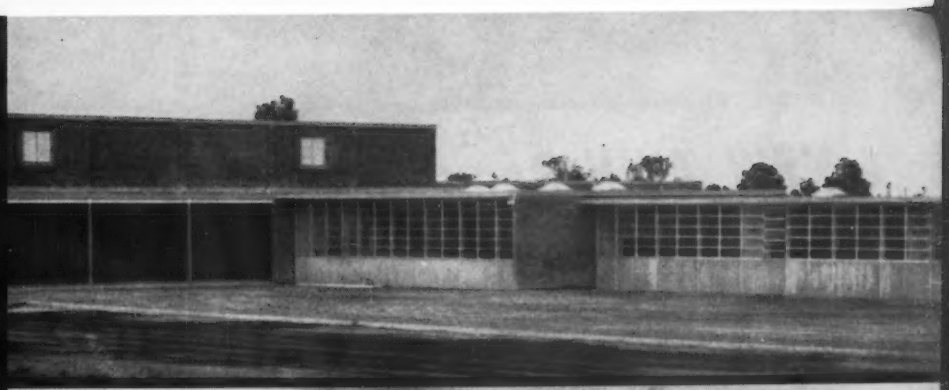
KEYWALL

GALVANIZED MASONRY REINFORCEMENT

to get stronger reinforcement at lower cost

MISSISSIPPI—Choctaw County High School, Ackerman. Exterior and interior partition walls are reinforced with Keywall. One of the many Keywall jobs specified by Raymond Birchett, architect, Jackson. General Contractor: Perry Construction Co., Philadelphia, Mississippi.

MISSISSIPPI—Whisenton School, DeKalb. Keywall used in every third course of exterior and interior concrete block walls. Architect: Bill Archer, Meridian. General Contractor: B & M Construction Company, Meridian.



MISSISSIPPI—One of the fourteen apartment buildings being constructed for married students on the University of Mississippi campus, Oxford. The buildings are of concrete and masonry construction, reinforced throughout with Keywall. Architect: Thomas H. Johnston, Jr., Starkville. General Contractor: J. W. Rich Construction, Humbolt, Tenn.

All over the South, architects and builders are using Keywall masonry joint reinforcement in increasing numbers. Such unanimous approval of Keywall is typical of the entire country. You find this superior reinforcement on jobs everywhere, giving greater crack resistance and increased lateral strength at lower cost.

It will pay to use Keywall on your next job. Your masons will really like it. They'll use it right. For more complete information, write

KEYSTONE STEEL & WIRE COMPANY

Peoria 7, Illinois

Keywall • Keymesh® • Keycorner • Keystrip • Keydeck
Welded Wire Fabric • Nails

TENNESSEE—Pine Hill Community Center, built for the Memphis Park Commission. By reducing shrinkage cracks, Keywall gives longer life to the beauty of this building. Architects: Mann & Harrover, Memphis. General Contractor: W. F. Jameson Construction Co., Memphis.

MISSISSIPPI—The Northside Elementary School, Kosciusko. One of the many buildings designed by William I. Rosamond, architect, Columbus, on which Keywall was specified. General Contractor: Fenwick Brothers Construction Company, Kosciusko.

ALABAMA—Dill Hall, student dormitory, Troy State College, Troy. Keywall is adding greater crack resistance to this attractive building. Architect: Pearson, Tittle & Narrows, Montgomery. General Contractor: Henderson, Black & Greene, Troy.

NEW THIN Remote Roomaire® Conditioners by Young

CHOOSE FROM 16 UNITS . . . 4 MODELS IN 4 SIZES

When you specify Remote Roomaire Conditioners by Young, you are providing year 'round comfort for individual rooms of multi-room installations. Both beauty and performance are combined in a quality unit by engineers known for their continuing research in air conditioning, heating and cooling. Available in four types and sizes, individually controlled Roomaire conditioners are ideal for use in office buildings, hotels, apartments, schools, and homes.

Here are some of the ROOMAIRE feature points

1. New slim design Free Standing models . . . less than 9" deep.
2. Entire cabinet easily removed to make electrical and piping hook-up. After unit is completely installed cabinet can then be put in place.
3. Multi-blade fan circulates air quietly and evenly. Fan and motor assembly easily removed and replaced in minutes.
4. High capacity cooling or heating coil is slanted for proper air flow and condensation drainage.
5. Four-speed motor switch permits finger-tip control for the desired volume of properly conditioned air.
6. Air filter changeable without removing front or any part of cabinet.

TYPE F (Free Standing) — Cabinets are less than 9" deep and only 25" high. Unit is very accessible for maintenance.

TYPE CF (Concealed Free Standing) — Designed for built-in installation directly below a window sill or back of a finished wall panel.

TYPE H (Horizontal) — Designed for exposed installation at ceiling.

TYPE CH (Concealed Horizontal) — For installation in a closet, or ceiling space.

For complete information see your nearest Young representative or write Young Radiator Co.

Young RADIATOR COMPANY
RACINE, WISCONSIN
Creative HEAT TRANSFER ENGINEERS
Executive Office: Racine, Wisconsin, Plants at Racine, Wisconsin, Mattoon, Illinois

Write Dept. 249-F for Catalog 7758

reviews

(Continued from page 224)

BOOKS RECEIVED

Architecture USA. Ian McCallum, Reinhold Publishing Corp., 430 Park Ave., New York, N. Y., 1959. 216 pp., illus. $13.50

The Collected Writings of Alvin Lustig. Edited and published by Holland R. Melson, Jr., Department of Graphic Design, Yale University, 1959. 96 pp. $3.50. Copies available from Holland Melson, 1215 Park Ave., New York, N. Y.

Maisons de France, Styles Regionaux. Distributed by the French Book Guild, 145 W. 57 St., New York, N. Y. 228 pp., illus., French text. $17.50. Examples of architecture, interiors, and furniture from Provence, The Pays Basque, Brittany, Alsace, Picardy, and Flanders.

Shadows From India. Roderick Cameron. The British Book Centre, Inc., 122 E 55 St., New York, N. Y., 1959. 214 pp., illus. $12.50

The Architectural Index for 1958. Compiled and edited by Ervin J. Bell. The Architectural Index, 517 Bridgeway, Sausalito, Calif., 1959. 52 pp. $5 (paperbound). Highly recommended to all who wish to review material published in our magazines for design professions, and for ready reference to back issues.

Metropolis Against Itself. Robert C. Wood. Committee for Economic Development, 711 Fifth Ave., New York, N. Y., 1959. 56 pp. $1 (paperbound). The concluding question is whether local metropolitan governments can solve the new public problems: make plans for the provision of regional services in transportation, land use, and redevelopment; determine priorities among those services; and guide the growth process of the urban regions.

The Real Estate Market in an Urban Renewal Area. Chester Rapkin. New York City Planning Commission, 2 Lafayette St., New York, N. Y., 1959. 152 pp. $1 (paperbound). A case study of a 20-block area in Manhattan's West Side, this report reveals the high cost of maintaining a slum. Most serious problem reported: the decline of mortgage money in the area and the increasing stringency of mortgage terms.

WHEN YOU CHANGE YOUR ADDRESS

Please report both new and old addresses directly to P/A five weeks before you move. The Post Office will not forward your magazine to the new address unless you pay extra postage. Avoid this needless expense by notifying us five weeks in advance.

PROGRESSIVE ARCHITECTURE
Circulation Department
430 Park Ave., New York 22, N. Y.

QUARTER CENTURY Barrett Specification BONDED ROOFS

BOSTON'S GOT IT

Architects: Kahn and Jacobs.
General Contractor:
George A. Fuller Co.
Roofer: Gilbert & Becker Co.

A striking new Boston building joins the growing list of fine structures whose roofs are bonded for 25 years

The Barrett SPECIFICATION® Roof of the new Travelers Insurance Co. Building is guaranteed for twenty-five years against maintenance expenses caused by ordinary wear and tear . . . the longest roofing guarantee in the history of the industry. It's made possible by improved quality controls in the manufacture of Barrett Pitch and Felt, which have piled up phenomenal longevity records on America's leading buildings for more than a century.

Tests, including actual performance, indicate that pitch provides the best weather protection for flat roofs. Where prolonged exposure to water may be expected, as on flat roofs, pitch is always the safer choice.

Specify the built-up roof that is now guaranteed for five years longer than any other . . . the roof that has always been famous for outliving its bond . . . the Barrett Quarter-Century "SPECIFICATION" Roof.

BARRETT DIVISION
40 Rector St., New York 6, N. Y.

Allied Chemical

Architect: Edward L. Varney—Associates, Phoenix, Arizona.

The ageless beauty of glass

The design of the Motorola Western Military Electronics Center, Phoenix, Arizona, shows how attractive industrial plants can be made through imagination and the application of modern techniques. This building's symmetry of form is relieved of the feeling of massiveness by the cantilevered construction and the colorful glass panels.

To blunt the effects of the Arizona sun, heat-absorbing SOLEX® Plate Glass has been installed in the windows. SOLEX softens the harsh glare of direct sunlight and makes the interior light relaxing and comfortable. Above and below the SOLEX windows are panels of Romany blue SPANDRELITE® —*Pittsburgh's* glass in color. Glass panels are framed and supported by gold anodized PITTCO® 82-X Metal. TUBELITE® Doors and Frames, with

PITTSBURGH GLASS

. . . the basic architectural material

Contractor: T. G. K. Construction Co., Inc., Phoenix, Arizona.

enhances the modern look!

all metal gold anodized, carry out the simplicity of design. The appealing beauty of the glass is permanent, for neither time nor the elements will affect it.

Inside, clear, transparent PENNVERNON® Window Glass is used in office partitions. And mirrors of Pittsburgh Plate Glass brighten the modern rest rooms.

In planning new buildings, or in remodeling present structures, we suggest you consider the many applications and the many advantages of Pittsburgh Plate Glass Company products. Our Architectural Representative will be pleased to furnish any information you require to help solve construction problems. There is no obligation on your part.

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

notices

p/a congratulates . . .

A. J. TOMASEK, named President and Chief Executive Officer, MISSISSIPPI GLASS COMPANY. Tomasek will continue to serve as President, Chief Executive Officer, and Chairman of the Board of the subsidiary, WALSH REFRACTORIES CORPORATION.

RUFUS LISLE, appointed Sales Manager, and MAUGHAN GOULD, selected as General Manager, NATIONAL HOUSING CENTER.

JEROME REICH, named Executive Co-ordinator of Styling, and WALLACE MICHAEL, Director of Design of GENERAL TIRE & RUBBER COMPANY's new Plastic Design Program. ARNOLD A. WEINER will head co-ordinated marketing of upholstery materials for TEXTILEATHER DIVISION.

R. D. PAULEY of WEYERHAEUSER TIMBER COMPANY, elected President of HARDBOARD ASSOCIATION.

CLARENCE C. KELLER, elected Executive Vice-President, HOLOPHANE COMPANY, INC.

EDWIN H. BRYANT, appointed Vice-President in charge of Marketing, INDEPENDENT LOCK COMPANY.

NEIL R. TROUT, appointed Assistant Sales Manager, JOSAM MANUFACTURING COMPANY.

WILLIAM H. SLEMP, JR., who will direct the expanded marketing efforts of KAISER ALUMINUM & CHEMICAL SALES, INC., in the new position of Manager of Residential Building Sales.

EDGAR J. GRIESBAUM, appointed Sales Manager of Tubular Products, LACLEDE STEEL COMPANY.

RALPH L. BROWNING, elected Executive Vice-President, and B. C. CARLTON, elected Vice-President of Marketing, LEHIGH PORTLAND CEMENT COMPANY.

EDGAR F. KOLLER, appointed Sales Promotion Manager, MAINTENANCE, INC.

GEORGE SUDLOW, elected President, NATIONAL MINERAL WOOL ASSOCIATION.

ROBERT E. BUCKLEY, elected Vice-President in Charge of Sales, PITTSBURGH CORNING CORPORATION.

ROBERT L. WITHERS, SR., elected Vice-President, PLASTIC PRODUCTS, INC. He will retain his position as Sales Manager.

JOSEPH A. LEADABRAND, appointed Assistant to the Vice-President for Promotion, succeeding THOMAS E. LANG, named Eastern Regional Manager at the PORTLAND CEMENT ASSOCIATION. E. GUY ROBBINS is new Head of Soil-Cement Bureau.

KENNETH H. TRUESDELL, appointed Manager of READ STANDARD SPECIAL PRODUCTS, division of CAPITOL PRODUCTS CORPORATION.

ALBERT M. COLE, elected Executive Vice-President, REYNOLDS ALUMINUM SERVICE CORPORATION, a subsidiary of REYNOLDS METALS.

DON A. PROUDFOOT, appointed Director of Marketing, SIMPSON TIMBER COMPANY.

LEROY C. MCCORMICK, named Sales Manager, and HALEY B. BERTAIN, appointed Fir Lumber Manager for recently formed production and sales organization within SIMPSON REDWOOD COMPANY.

MITCHELL P. KARTALIA, elected Vice-President, SQUARE D COMPANY.

JOHN E. CLARK, named Director of Promotion, and DOUGLAS WHITLOCK II, appointed Assistant to the Director of Mason Relations, STRUCTURAL CLAY PRODUCTS INSTITUTE.

DAVID LAUB, appointed General Manager of Contracting Division of A. C. HORN CORPORATION, and BEN A. GORLIN, appointed Sales Manager of AMPRUF PAINT COMPANY, subsidiaries of SUN CHEMICAL CORPORATION.

O. D. HANSON, elected President, THERMOFLECTOR ASSOCIATES, INC.

ROSE M. COAKLEY, appointed Consultant in Lighting, MOE LIGHTING DIVISION of THOMAS INDUSTRIES, INC.

JAMES EVERETT, named Sales Manager, TRUSCON LABORATORIES.

JAMES R. BILES, appointed Manager, MICARTA DIVISION, UNITED STATES PLYWOOD CORPORATION.

(Continued on page 242)

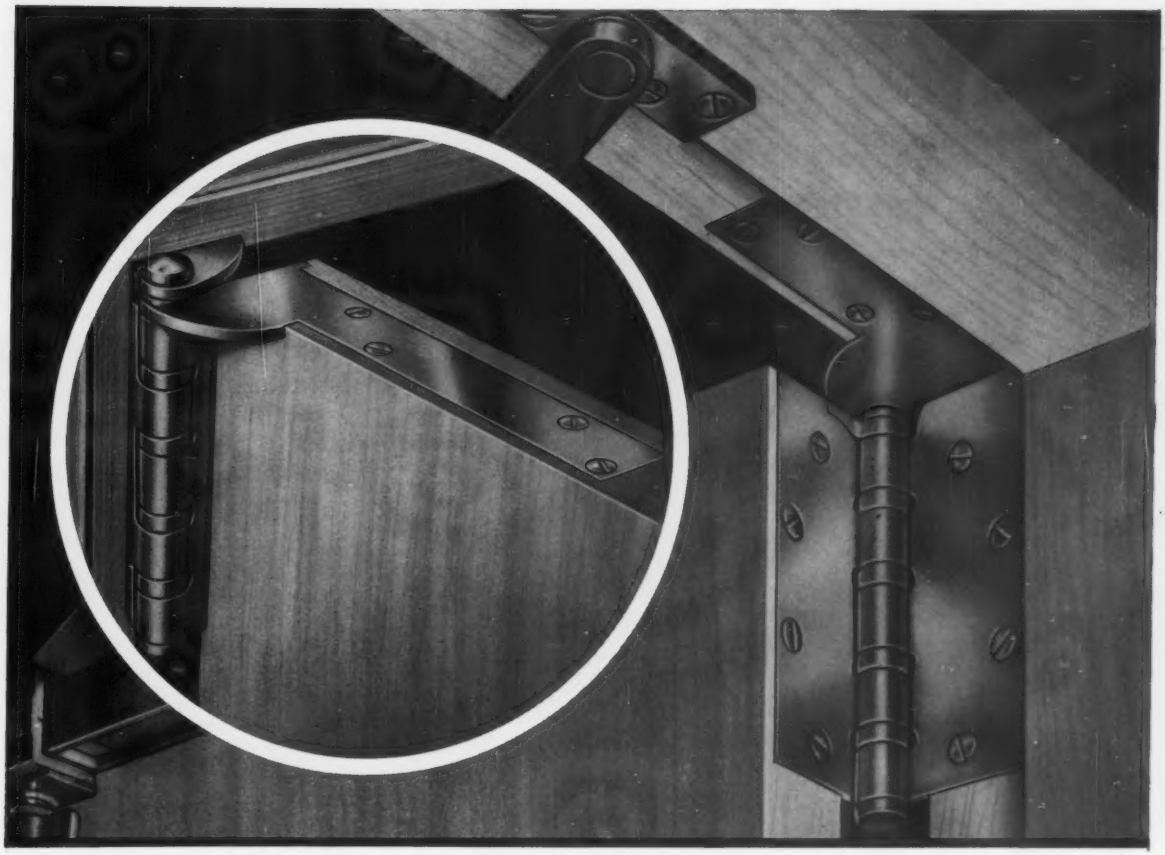
The Man to see about automatic door controls

He's the distributor for Stanley Magic-Door controls that open and close doors *automatically*. Magic-Door controls will complement the modern design of your entrance and, whether located at entrance or service doors, provide functional efficiency.

At the planning stage, call in the Magic-Door distributor for ideas and technical assistance. Representing the leader in the automatic door control field, he is *factory-trained*, and will *install* and *service* the Magic-Door controls you specify.

Magic-Door distributors are located in principal cities throughout the United States, assuring you of service from a nearby source. For the address of the Magic-Door distributor in your area, write:

MAGIC-DOOR SALES
THE STANLEY WORKS
DEPT. F
1078 LAKE ST.,
NEW BRITAIN, CONN.



Now . . . two hinges in ONE!

STANLEY Pivot Reinforced Hinge

Pat. Pend.

Hinges on the exterior of buildings take a terrific beating, especially when overhead holders bring the doors to a smashing halt. Stanley has solved this serious problem by designing this much needed PIVOT REINFORCED HINGE, combining a pivot and a butt hinge in one compact, interlocked unit — in which they share the same pin to assure perfect alignment. It is important that both pivot and hinge share the same center and will not damage each other by rotating on separate centers which do not line up precisely. It is a common occurrence when two pivots or hinges are closely spaced that misalignment will cause them to "fight" one another, generating severe overloads even during normal swinging of the door. . . .

Interlocked corners, of pivot and butt leaves, prevent individual sidewise motion of either, so that strain is shared equally by both. The combination of interlocked corners and mutual pin allows locating the screw holes so as to minimize danger of splitting the door parts while improving fastening.

Write for complete technical data to Stanley Hardware, Division of The Stanley Works, Dept. F, 78 Lake St., New Britain, Conn.

STANDS UP UNDER SEVERE TESTING

Stanley's Pivot Reinforced Hinge was subjected to accelerated and especially severe break-down tests in Stanley's Research Laboratories. Operating under conditions in which every cycle of a heavy door was accompanied by overloads only occasionally encountered in actual day-in-day-out, year-in-year-out use, this amazing hinge not only showed exceptional ability to withstand abuse but also decisively increased longevity over that demonstrated by conventional hinges under normal conditions.

Deserving a place in your plans for progress

HARDWARE MAGIC-DOOR EQUIPMENT ALUMINUM WINDOWS

AMERICA BUILDS BETTER AND LIVES, BETTER WITH STANLEY

STANLEY

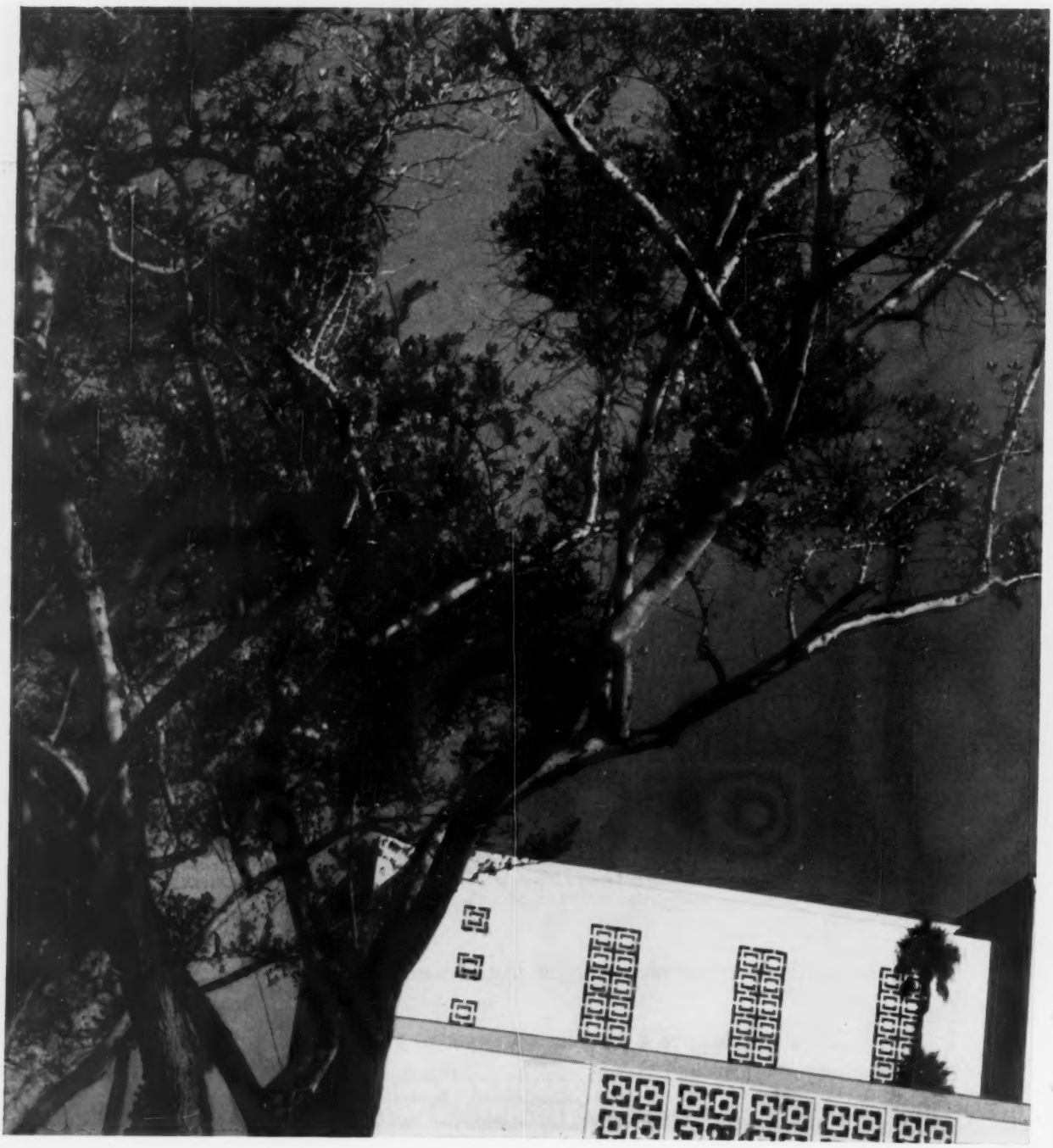
REG. U.S. PAT. OFF.

This famous trademark distinguishes over 20,000 quality products of The Stanley Works—hand and electric tools • builders and industrial hardware • drapery hardware • door controls • aluminum windows • stampings • springs • coatings • strip steel • steel strapping—made in 24 plants in the United States, Canada, England and Germany.

At Mormon Temple, L. A., they get year-round comfort with **GAS**-*operated* **CARRIER** *absorption refrigeration*

Los Angeles' striking new Mormon Temple provides air conditioning as modern in operating efficiency as its architecture is modern in design. It's completely equipped with gas-operated Carrier Absorption Refrigeration. Economical, efficient, and trouble-free, this is the most up-to-date type of air conditioning available today.

The absorption refrigeration unit has no major moving parts and uses plain water as the refrigerant. No prime mover is required, only low-pressure steam or hot water. Boiler capacity is put to use on

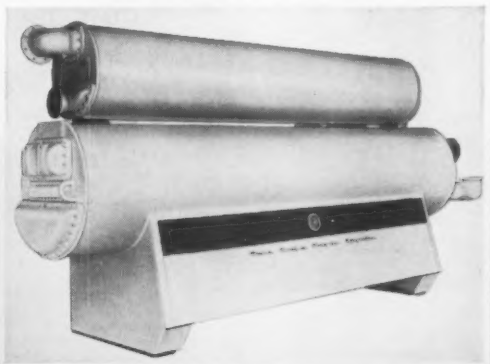


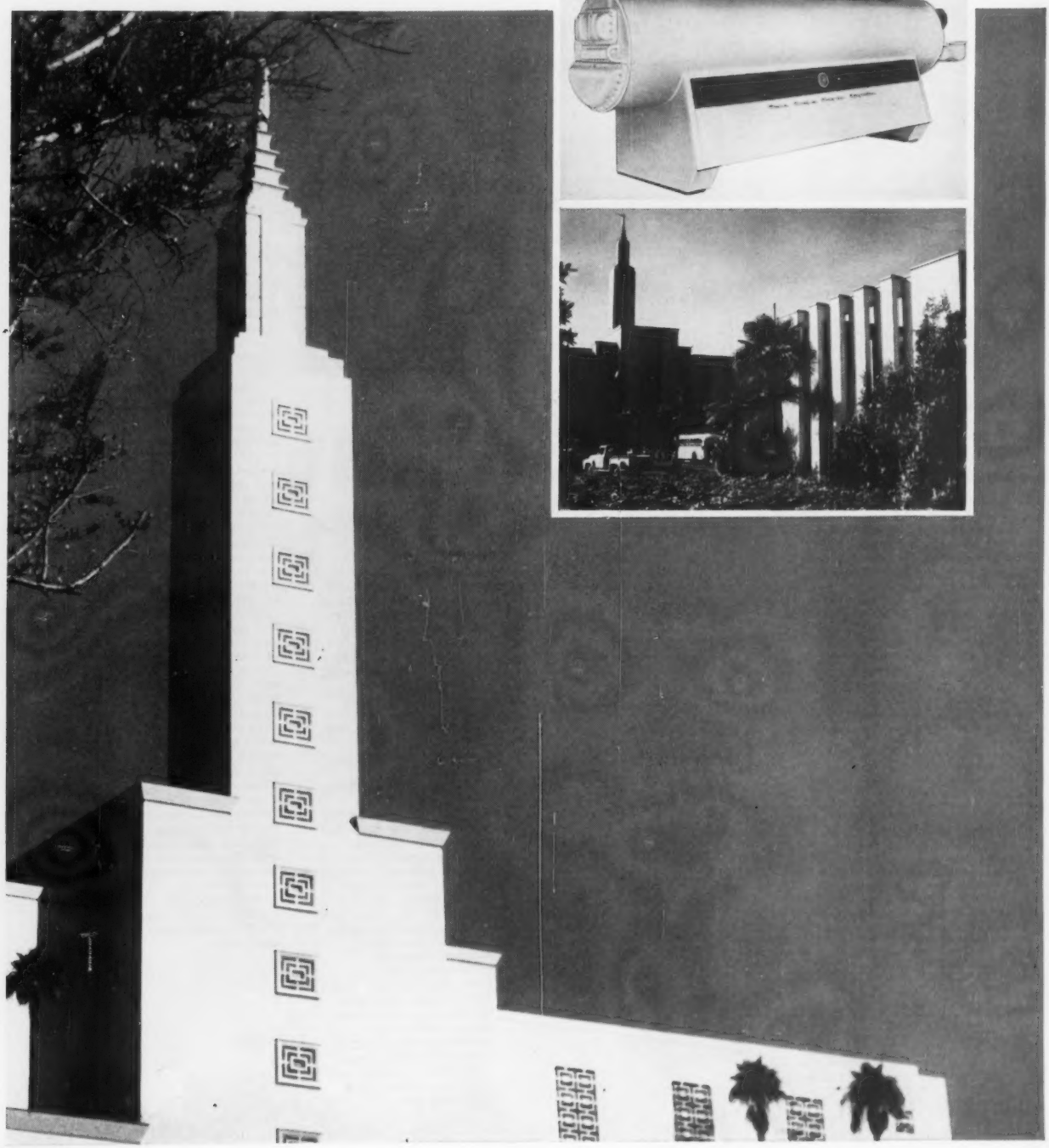
a year 'round basis . . . heating in the winter and cooling in summer. With gas as the boiler fuel, operating costs are cut to a minimum.

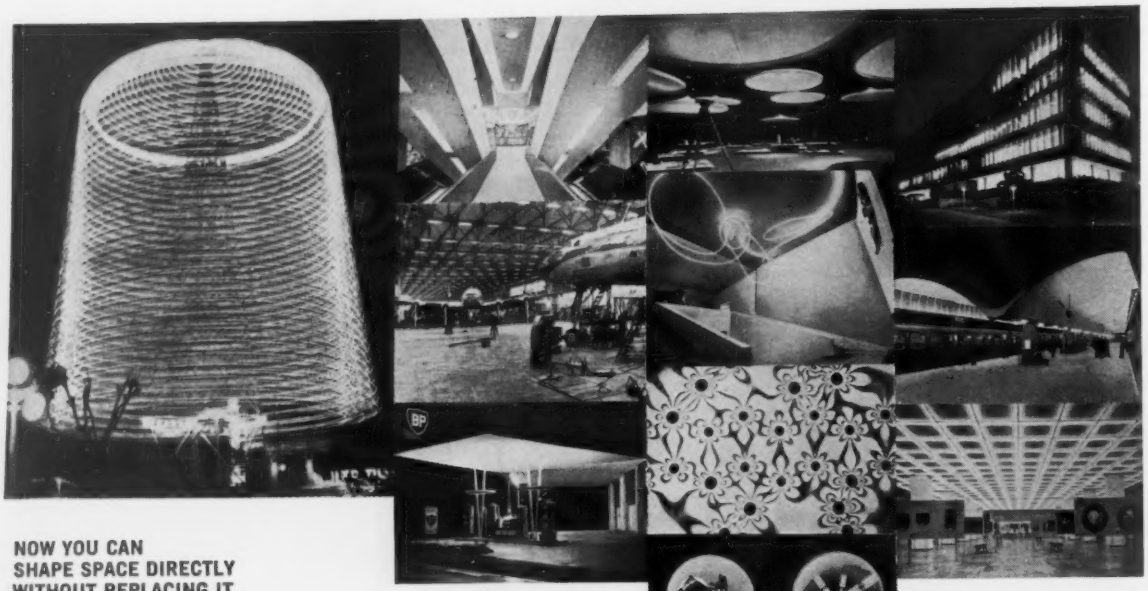
For all-around quiet, dependable, low-cost operation, specify gas-operated Carrier Automatic Absorption Refrigeration equipment. Specific performance, engineering data and cost details are yours for the asking. Just call your local gas company, or write to Carrier Corporation, Syracuse 1, New York. *American Gas Association.*

Gas-operated Carrier Automatic Absorption Refrigeration

- cuts operating expense
- lowers installation cost
- provides quiet, vibrationless operation
- answers space and weight problems
- automatically adjusts to varying loads







NOW YOU CAN SHAPE SPACE DIRECTLY WITHOUT REPLACING IT

With this new book LIGHTING IN ARCHITECTURE you will learn how to achieve new architectonic effects by using light, particularly artificial light, as a structural and plastic element in space. You will learn how to choose an appropriate lighting "mood" as the starting point toward a solution of all lighting problems. You will be able to bring enchantment, distortion, emphasis and an imaginative concept to your buildings. You will understand fully the relationship between natural and artificial lighting—and most important of all—you will learn the technical language of the illuminating engineer, giving you greater opportunity for realizing your plans and ideas through his cooperation.

And, since this is a two way street, LIGHTING IN ARCHITECTURE, is equally indispensable and valuable to the illuminating engineer to whom the selected examples will show the artistic development of contemporary architecture and the path he must follow in solving lighting problems. LIGHTING IN ARCHITECTURE is both a primer of techniques for providing lighting in architecture and an idea-book for the creation of exciting forms and shapes through light. Since color and light are inseparably interrelated there are 16 pages of the most brilliant and exciting color reproductions included in the book. And because light is a visual medium there are more than 500 photos in black and white. It has altogether 252 pages and measures 8½" x 11". It sells for $15.00.

RESERVATION CERTIFICATE
To your bookseller or
REINHOLD PUBLISHING CORPORATION
430 Park Avenue, New York 22, N. Y., Dept. 5339
In CANADA: Burns & MacEachern, 12 Grenville St., Toronto 5, Ont.

Please send me as soon as possible a first edition of LIGHTING IN ARCHITECTURE by Walter Koehler and Wassili Luckhardt. If after browsing through it for 10 days I am not completely delighted I may return the book and owe nothing. Otherwise, you will bill me at the regular retail price of $15.00 plus postage.

NAME_____

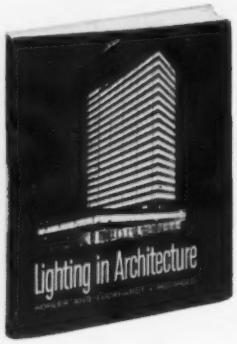
ADDRESS_____

CITY_____ ZONE____ STATE_____

☐ Check here if you include check or money order (No Cash). We pay postage then. Same return privilege; refund guaranteed. Add 3% sales tax for N.Y.C. orders.

LIGHT AS AN ELEMENT OF STRUCTURE—
A Pictorial Narrative

The first part of LIGHTING IN ARCHITECTURE is compiled by Wassili Luckhardt, an architect. He has chosen to address his readers in the language of pictures—a preferred medium of communication between different nations as well as between different fields. However, he has prefaced his pictorial narrative—or slide film, as he would like to call it—with a brief word of comment. The pictures are not to be viewed so much for their individual content as for a total impression planned to suggest new luminous forms in a broad sweep from microcosm to macrocosm, from complete edifice to minute detail.



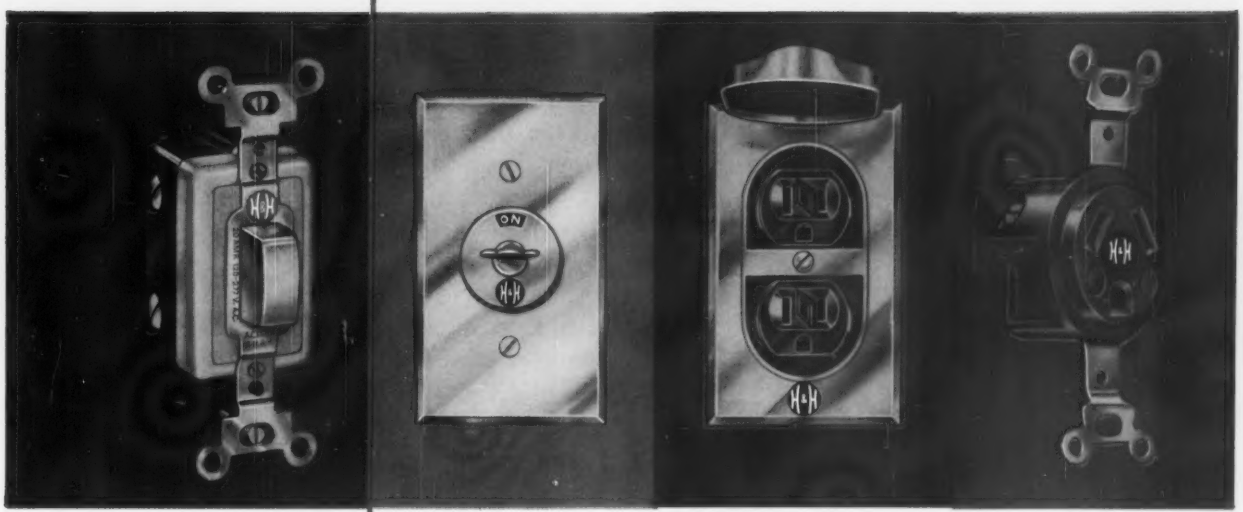
LIGHT AS AN ARCHITECTONIC MEDIUM OF CREATION

The second part of LIGHTING IN ARCHITECTURE is written by Dr. Walter Koehler, an illuminating engineer. His exposition of his field for the benefit of other construction specialists is brilliantly written. Academic ballast has as far as possible been put aside. The uninitiated may at first be dazzled by **luxes** and **lumens** . . . , but never mind, they're not as bad as they seem, and a smattering of theoretical background and terminology is indispensable. Along the way Walter Koehler broaches many an idea that transcends the limitations of the subject, introducing general considerations concerning light, color, and form and their effects on man. Here are some of the subjects covered in Part II —"Visual architecture": Architecture as art of light—Light as a tool and as a phychotropic agent—Design of the lighting element—Space as perception—Light and color—Surface color and lighting color—Daylight lighting and evaluation—Modes of lighting—Luminaires and lighting material—Optical shape —On color psychology—Color-conditioning and color hygiene.

LIGHTING IN CONTEMPORARY SPACE

The third part of the book deals with practice. Existing installations are illustrated, described and criticized. It shows how the design of lighting must not only provide the necessary light for the visual work to be accomplished but determine the entire architectonic configuration of the space and control important physiological and psychological effects by its color atmosphere. Special attention is paid to the **Luminous Ceiling** because of its extraordinary versatility. The problems of designing lighting for **workrooms** in industry **trades**, administration, business and commerce is closely scrutinized from the point of view of choosing the proper level of illumination with functional local uniformity and shading, as well as the selecting of light and color suited to the work being done and shows how to avoid glare, direct or reflected. Other buildings discussed in terms of lighting are Private dwellings—Social rooms and lounges—Theatres, concert halls and cinemas—Exhibition halls—Schools—Museums —Churches—Also Advertising Light, Luminous sculpture and display architecture are dealt with.

THIS TRADE-MARK



a. b. c. d.

ASSURES YOU THE WIRING DEVICE IS SPECIFICATION GRADE! ...*LOOK FOR IT!*

Of equal importance to the selection of specification grade material is the follow-through that assures your client the quality you specified was installed. Arrow-Hart simplifies this problem by marking *all* wiring devices in its Specification Grade Line with the well-known H&H. Only Arrow-Hart's highest quality wiring devices carry this trade-mark—a trade-mark you can count on . . . a trade-mark you should look for.

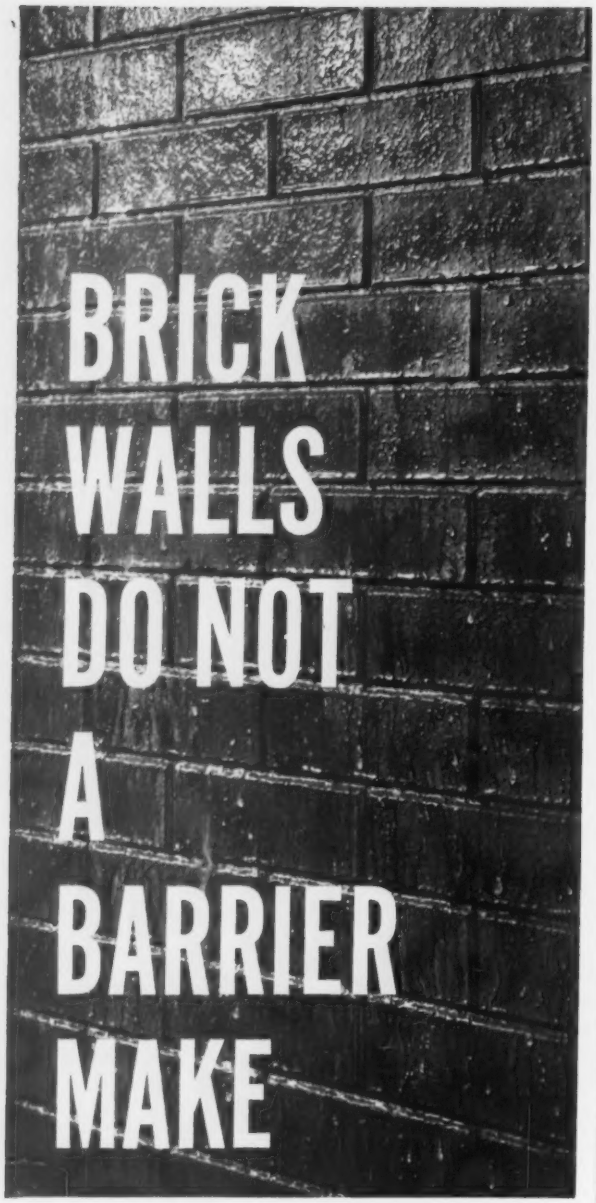
Write for the H&H Specification Index Chart—designed to simplify your specification problems to: The Arrow-Hart & Hegeman Electric Company, Dept. PA, 103 Hawthorn St., Hartford 6, Connecticut.

ARROW-HART OF HARTFORD

WIRING DEVICES • MOTOR CONTROLS • ENCLOSED SWITCHES • APPLIANCE SWITCHES

a. QUIETTE TAP ACTION SWITCH 2891-I
15 amp., 120-277 V.
b. CORBIN ROTARY LOCK 1281
Flush Type with plate
10 amp., 125 V.; 5 amp., 250 V.
c. DUPLEX WEATHERPROOF
GROUNDING TYPE RECEPTACLE 5262-WP
15 amp., 125 V.
d. GROUNDING TYPE RECEPTACLE 7621
20 amp., 277 V.

WHEN YOU THINK OF WIRING DEVICES, THINK OF ARROW-HART



but WASCO FLASHING does...

Only Wasco offers a complete line of flexible flashing materials for all through-wall and spandrel applications . . . copper-fabric, copper-asphalt, copper-lead, fabric, plastic, aluminum. Contact your Wasco representative for complete information about flashing for any type of construction.

See Sweet's Architectural File 8g/Wa

WASCO
PRODUCTS, INC.
CAMBRIDGE 38, MASS.
TORONTO, CANADA

notices

(Continued from page 236)

p/a congratulates . . .

ARCHIE P. COCHRAN, elected President of ANACONDA ALUMINUM CO., subsidiary of THE ANACONDA CO., recently expanded to include AMERICAN ALUMINUM CO., and COCHRAN FOIL CORP.

MARK W. CRESAP, JR., elected President and Chief Executive Officer, and GWILYM A. PRICE, elected Chairman of the Board, WESTINGHOUSE ELECTRIC CORP.

PAUL J. WASHBURN of JOHNS-MANVILLE SALES CORP., re-elected President, and GEORGE I. SMITH of Acoustical Department of CELOTEX CO., as Vice-President of ACOUSTICAL MATERIALS ASSOC.

LAWRENCE H. BAKER, appointed Manager of Field Sales, Applied Machinery, and Systems, AIRTEMP DIVISION of CHRYSLER CORP.

LEWIS E. GILLINGHAM, appointed Marketing Director and Advertising Manager, ALTEC COMPANIES, INC.

JOHN R. WARNOCK, appointed General Manager of Marketing, DETROIT CONTROLS DIVISION of AMERICAN-STANDARD.

E. C. EMANUEL, appointed Manager of new Customer Technical Services Department, GLASS AND CLOSURE DIVISION of ARMSTRONG CORK CO. F. B. MENEGER will succeed Emanuel as General Manager.

NORTON B. JACKSON, named Manager, ASBESTOS-CEMENT PRODUCTS ASSOC.

WALTER COWAN, named as head of BARCWOOD DIVISION of BARCLAY MANUFACTURING CO., INC.

DAVID H. RADCLIFFE, appointed Sales Manager of Architectural and Industrial Division, BARROWS PORCELAIN ENAMEL CORPORATION.

JAMES H. INGERSOLL, elected President, REFLECTAL CORP., subsidiary of BORG-WARNER CORP.

G. C. VERKERK joins CALORIC APPLIANCE CORP., as Division Manager of Metal Preparation, and Porcelain Enamel Departments. (CALCORE, architectural porcelain panels.)

HERBERT H. GRAEFE, appointed Advertising and Promotion Manager, CONSWELD CORP.

GEORGE J. TAYLOR, appointed Vice-President and Director of Research; and GORDON WELLS, General Manager of Sales; DAY BRITE LIGHTING, INC.

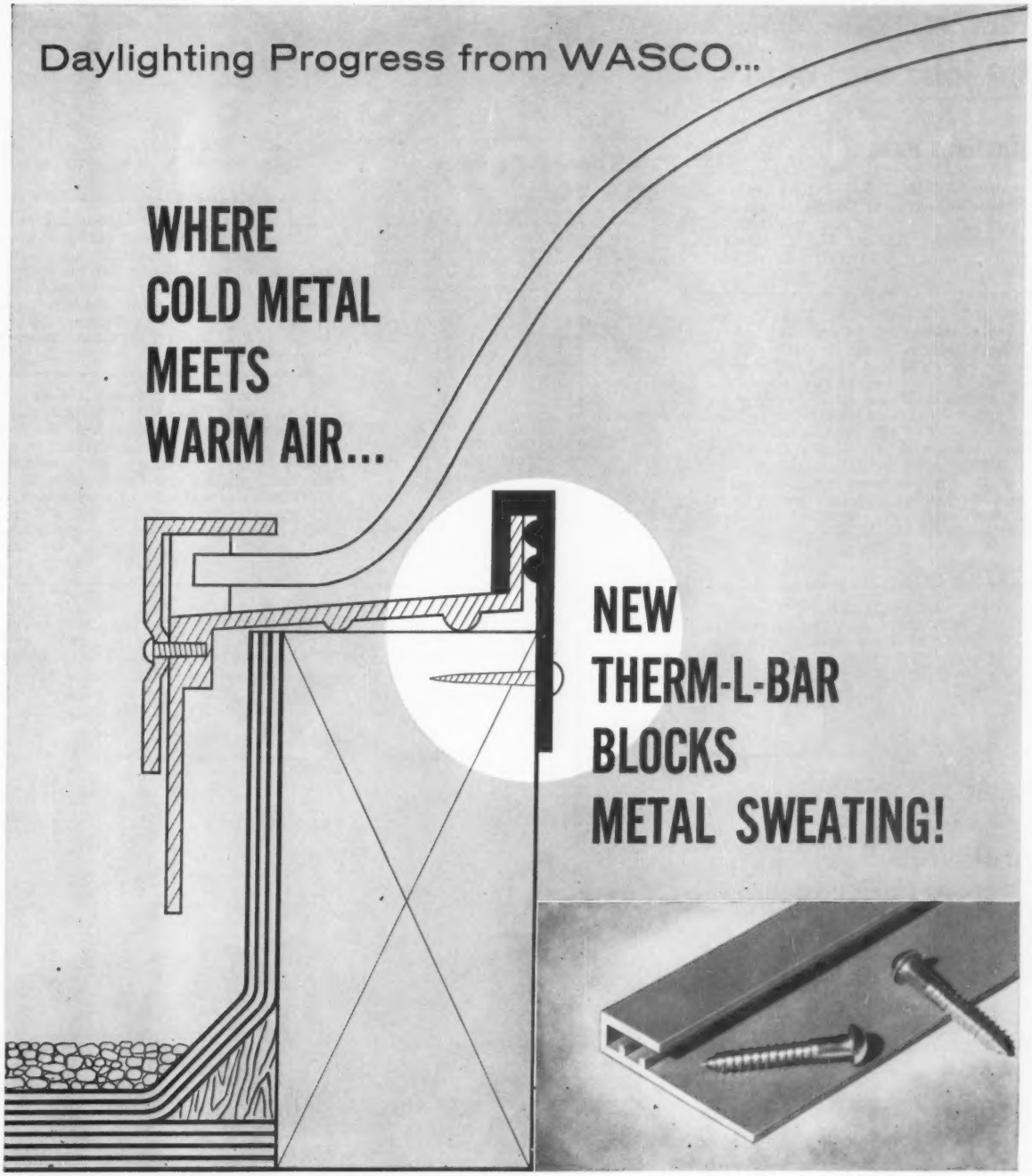
EDWARD W. MCGOVERN, appointed Manager of Ceramics Division, DU PONT'S ELECTROCHEMICALS DEPARTMENT. JOHN M. OLSEN, Product Manager for Ceramics, retains responsibility for sales.

WILLIAM L. PIERCE, appointed Southern Regional Manager of EDWARDS COMPANY, INC.

CHARLES M. TOELAER, appointed General Sales Manager, HANOVIA LAMP DIVISION of ENGLEHARD INDUSTRIES, INC.

Daylighting Progress from WASCO...

WHERE COLD METAL MEETS WARM AIR...



NEW THERM-L-BAR BLOCKS METAL SWEATING!

Therm-L-Bar is a specially extruded plastic "glove" that fits over the aluminum lip of the condensation gutter on standard Skydomes. It acts as a deterrent to condensation that forms when outside cold, conducted through the metal, meets the warm air inside. Perfected by Wasco's research laboratories, Therm-L-Bar is another example of Wasco's continuing development of better products for daylighting. Now, available on all standard Skydomes. For complete information on Wasco Skydomes, see Sweet's Architectural File 20a / Wa, or write today.

WASCO SKYDOMES

Wasco Products, Inc., 5 Bay State Road, Cambridge 38, Mass. In Canada: Wasco Products (Canada) Ltd., Toronto 15, Ontario

p/a jobs and men

situations open

ARCHITECT—Wanted for teaching position. Graduate of recognized school of architecture. Salary open, dependent upon training and experience. Contact M. K. Humble, Southern Illinois University, Carbondale, Illinois.

ARCHITECTS WANTED—The TVA Division of Design, Knoxville, Tennessee, has several openings for experienced architects for specification and design work on a broad program of hydro and steam power plants, and office and service buildings. Good openings for those desiring to participate in the architectural work of TVA. Entrance salaries for 40-hour workweek are $5,900 and $6,800 per annum, respectively, depending on qualifications. All jobs carry automatic within-grade increases for satisfactory service, liberal vacation leave, sick leave, and retirement benefits. Write to Tennessee Valley Authority, Division of Personnel, Knoxville, Tennessee.

ARCHITECTURAL DESIGNER—With not less than 5 years office experience on prestige buildings of a commercial and/or institutional nature, to accept an assignment in Design team of Melbourne Office. Excellent salary will be paid to selected appointee for 12 to 18 months engagement, plus travel both ways. Apply in first instance by airmail letter to: Buchan, Laird & Buchan Pty. LTD. Architects & Engineers, 24 Park Street South Yarra, Melbourne, Australia.

Advertising Rates

Standard charge for each unit is Five Dollars, with a maximum of 50 words. In counting words, your complete address (any address) counts as five words, a box number as three words. Two units may be purchased for ten dollars, with a maximum of 100 words. Check or money order should accompany advertisement and be mailed to Jobs and Men, c/o Progressive Architecture, 430 Park Avenue, New York 22, N. Y. Insertions will be accepted not later than the 1st of the month preceding publication. Box number replies should be addressed as noted above with the box number placed in lower left hand corner of envelope.

ARCHITECTS AND ARCHITECTURAL DRAFTSMEN—Openings in consulting firm for men experienced in building design. Send personal information, experience record and salary requirements. Stanley Engineering Company, Hershey Building, Muscatine, Iowa.

ARCHITECTURAL DRAFTSMAN—With varied experience required in established Architectural firm in Southeast. State full particulars and salary. Box 767 PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DESIGN DRAFTSMAN with a minimum of two years experience in preliminary and working drawings. There are presently two openings with this well-known Rochester, New York, firm, whose work has included a consistent volume and variety of projects. Send resume to Barrows, Parks, Morin, Hall & Brennan, 133 East Avenue, Rochester 4, New York.

ARCHITECTURAL PROMOTION — Growing manufacturer of a nationally distributed, complete line of flat glass products seeks men for personal contact work with architectural firms. Headquarters for market areas served will be N. Y. C., Chicago and Los Angeles. Some experience required and only applicants reasonably local to these cities will be considered. Please give full details on experience, starting salary and age. Write to Box 768 PROGRESSIVE ARCHITECTURE.

RETIRED ARCHITECTURAL contact man to work part time or a few days a week calling on architects to introduce high quality line of aluminum railings. No selling, estimating nor order taking. Compensation for each

(Continued on page 246)

Davidson County, N. C., Courthouse—

for permanence, beauty, and low upkeep, the architects specified . . .

MOUNT AIRY GRANITE

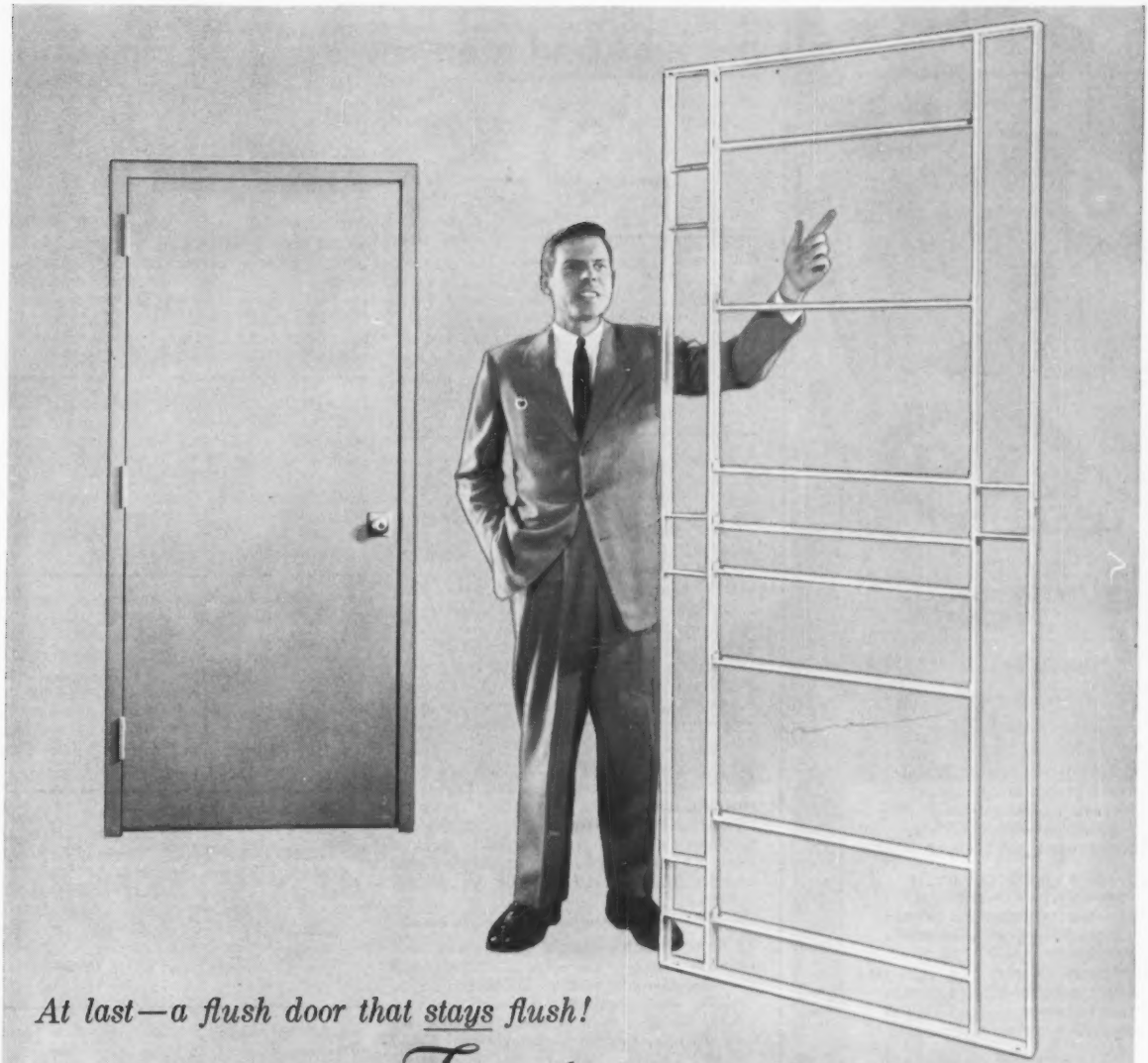
Echols-Sparger and Associates, Architects

This recently completed 43,000 square foot courthouse building in Lexington, North Carolina, has exterior walls of polished granite slabs from North Carolina Granite Corporation. Costing $700,000, this public building was built for permanence, beauty, and low upkeep. Mount Airy Granite met all three specifications perfectly.

Granite's outstanding characteristics — adaptability to many designs, uniform texture, beauty, and freedom from maintenance — are yours when you specify Mount Airy Granite.

NORTH CAROLINA GRANITE CORPORATION

Mount Airy, North Carolina



At last—a flush door that stays flush!

. . . it's the new 1 3/4" *Fenestra* Hollow Metal Door

This new Fenestra® Hollow Metal Door can take the slamming and banging of school kids without denting or dimpling. Think of the maintenance savings . . . year after year!

The 16-gauge steel faces are about 1⅔ times thicker than 18- and 20-gauge doors . . . give extra resistance to denting and marring . . . eliminate need for reinforcing where and when surface-applied hardware (such as door closers) are added. This saves time and money.

Beneath the "sleek" seamless faces of 16-gauge steel is a reinforcing multi-rib grid of roll-formed steel sections. Over 100 weld points secure this grid to *both* door faces. Here is the *extra* strength and rigidity you've been looking for—*without wasteful weight.*

Fenestra Full Flush Hollow Metal Doors are available in all standard sizes, with or without glass lights, and with a complete selection of hardware for school applications. Each door comes as a *complete* package —door, frame and hardware completely machined to eliminate on-the-job cutting and fitting—*for lowest installed price.*

Let the man from Fenestra (listed in Yellow Pages) help you in your selection. Or write to Fenestra Incorporated, 2250 East Grand Blvd., Detroit 11, Michigan.

Let the man *from Fenestra be your "door man"*

Fenestra HOLLOW METAL DOOR FRAME • HARDWARE UNITS

YOUR SINGLE SOURCE OF SUPPLY FOR DOORS • WINDOWS • BUILDING PANELS • CURTAIN WALLS

NEW
FUNCTIONAL
DESIGN
BANISHES
FINGER
FATIGUE
Castell
LOCKTITE
NO SLIP
FUNCTIONAL
GRIP
–the lead holder that now offers perfect balance and comfort for drawing and drafting.
Nimble fingers are just as vital to you in your profession as they are to a violin virtuoso. Why punish them with out-of-date, cumbersome lead holders?
Our new LocktiteSG in your fingers will be a revelation in lightweight comfort and balance. LocktiteSG now has a brand new functional finger grip. Made of gold-plated aluminum, it is designed with special serrations to caress your fingers and let you work all day with a minimum of fatigue.
All Locktites are equipped with gun-rifled clutch that grips the lead like a bull dog and TEL-A-GRADE, the indicator that reveals degrees at a glance. For that true "golden touch" be sure to use imported Castell 9030 Black Gold graphite in your LocktiteSG. For the sake of finger comfort—start today.
FULLY GUARANTEED!
If it ever happens, that any part of a LOCKTITE Holder breaks in normal usage, the entire holder will be replaced free of charge.
CASTELL LOCKTITE TEL-A-GRADE 9800 SG
THE LEAD HOLDER WITH THE BULLDOG GRIP
LOCKTITE
A.W. FABER-CASTELL
A.W. FABER CASTELL
A.W. FABER-CASTELL
PENCIL CO., INC. NEWARK 3, N. J.

p/a jobs and men

(Continued from page 244)

call, no commission. Can supplement Social Security earnings. Blumcraft of Pittsburgh, 460 Melwood Street, Pittsburgh 13, Pa.

OPENINGS—For several experienced architectural draftsmen. Permanent for qualified applicants. One chief draftsman opening. Ideal working conditions, opportunity for advancement. Give full details of experience and all other pertinent information in first letter. Include salary requirements and availability. Michael J. DeAngelis, Architect, 42 East Avenue, Rochester 4, N. Y.

ARCHITECTURAL DESIGNER—Talented and experienced Architectural Designer or Architect capable of developing projects in close association with other principals in a small office. This opportunity would also offer possiblities for permanent associateship in the firm. Candidate must have distinguished himself with high scholastic record as well as achievements in the field of architecture. Salary or terms commensurate with capabilities. Please give complete and detailed explanation of background and experience. Write Mario J. Ciampi, Architect, 425 Bush Street, San Francisco, California.

MANUFACTURERS' AGENTS WANTED—Excellent opportunity to represent manufacturer of one of America's finest, heavy duty vinyl wall-covering lines. Prefer men calling on architects, decorators, painting contractors, dealers. Commission basis. State territory, present lines, experience and following. Replies held confidential. Box 769 PROGRESSIVE ARCHITECTURE.

REPRESENTATIVES—People with architectural or art training to represent ARCHITECTURAL ILLUSTRATIONS in their area. This consists of visiting local architects, showing our brochure, doing rough perspectives, pick up and delivery. Generous commissions. Could be part time to start. Further information may be obtained by writing Box 770 PROGRESSIVE ARCHITECTURE and giving your full resume.

SALES MANAGER—Manufacturer of well known line of metal furniture has opening in its expansion into the contract furniture field. Successful sales management experience in working with architects preferred, but not necessary. Nation-wide distribution. Salary and commissions. Send detailed resume to: Box 783 PROGRESSIVE ARCHITECTURE.

ARCHITECT—For Architectural and Engineering Office Southern Arizona Office. Must be qualified to secure Arizona License. Write full information, exhibits of work, salary requirements. Future associateship possible. No relocation expense. Reply Box 771 PROGRESSIVE ARCHITECTURE.

EDITOR—Art and Architectural Books. Leading publisher of fine books on art instruction, design and architecture has opening for man, age 30-40, as top editor to develop program, procure manuscripts, and direct small working staff. Must be experienced in book or magazine publishing, with an art or architectural background. Send resume with complete details including salary requirements to Box 772 PROGRESSIVE ARCHITECTURE.

situations wanted

ARCHITECT—B. Arch. Degree, Registered several states, N.C.A.R.B. Certificate. Ambitious, and seeks permanent and responsible position with future. Five years diversified experience (2 yrs. in administrative position). Presently engaged with firm as Architect. 31, married with family. Detailed resume on request. Box 773 PROGRESSIVE ARCHITECTURE.

ARCHITECT—Interested in associating with small or medium size office practicing contemporary architecture. Seeks a responsible position with an eye to the future. University graduate, registered by examination. Seven years experience in educational, commercial, industrial and institutional buildings. Married, 28, family. Box 774 PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DRAFTSMAN—Architecture graduate, '56, Miami University, Ohio. 27, married, worked construction in West, some drafting-design experience in Midwest. Currently Navy Staff Officer. Desires employment with architecture firm, Florida or Southwest area preferred. Available November, 1959. Early inquiries desired for interview and relocation. Resume on request. Box 775 PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL GRADUATE—University of Cincinnati. 26, married, military obligation fulfilled. Aspiring graduate desires inspiring opportunity. 5 years experience in industrial, educational, religious and residential architecture. Seeking position with small or medium office in Florida, Georgia or West Coast doing contemporary design. Will send resume on request. Box 776 PROGRESSIVE ARCHITECTURE.

AVAILABLE—Lady Architectural Asst. first class. Long interstate experience. Any location; unincumbered. Sketches to complete working drawings. High class color perspectives. Residential, commercial, municipal, schools, churches, theatres, etc. Rapid dependable. Civil Service rating 92%. Late instructor in Arts, N. Y. All or part time. P. O. Box 1066, Zone 8, Richmond, Va.

COLOMBIAN ARCHITECT—28, married, P. H. Arch. Degree from University of Rome, Italy. City Planning and Interior Decoration studies. Want interesting position in progressive U. S. architectural office, preferably in Washington, D. C., but will consider other areas. Well command of English, Italian and Spanish. Write to: A. Gutierrez, Carrera 20 No 39B35. Bogota, Colombia, South America.

CONSTRUCTION SUPERVISOR—Seeking opportunity to fulfill ambitions toward residential design or development of architectural products and techniques. Graduate architect with varied design experience. Background in development of plastics products and applications for the construction industry. Young, enthusiastic, excellent qualifications and references. California preferred. Resume upon request. Box 777 PROGRESSVE ARCHITECTURE.

OVERSEAS POSITION—With architectural firm

(Continued on page 248)

Medical Professional Building, San Antonio, Texas. Architects: Marmon & Mok, Jerry Rogers; Contractors: Harwell & Harwell.

THE UNUSUAL IS THE USUAL IN CECO CURTAINWALLS

...ENGINEERED FOR PERFECTION IN PERFORMANCE

Not made to a price to "get by" temporarily under optimum conditions, but engineered to perform perfectly . . . year after year after year. Such is the standard for Ceco Curtainwalls, where the unusual is the usual in performance.

Basic engineering principles developed through technical research on the job and in the laboratory provide these assurances: (1) mullions designed to meet wind loads . . . (2) proper allowance for expansion and contraction, permitting windows and caulking to move together to ensure a tight weather-seal . . . (3) no accumulative expansion of wall panels . . . (4) firm anchorage of the wall to the skeleton of the structure.

Yes, you can be sure creation and construction will work together with Ceco Curtainwalls. You can blend artistic expression with practicality and be confident of perfection in performance. Call on your Ceco man in the planning stage. Take advantage of Ceco's "library of experience." Ceco Steel Products Corporation. General offices: 5601 West 26th Street, Chicago 50, Illinois. Offices, warehouses and fabricating plants in principal cities.

Bloomfield Junior High School, Bloomfield Hills, Michigan. Architect: Smith, Tarapata, McMahon; Contractor: Pulte-Strang.

IN CONSTRUCTION PRODUCTS CECO ENGINEERING MAKES THE BIG DIFFERENCE

Curtainwalls, Windows, Screens / Hollow-Metal Doors / Steelforms / Concrete Reinforcing / Steel Joists
Roofing Products / Cecoframe Buildings / Metal Lath

CECO STEEL PRODUCTS CORPORATION PA
5601 West 26th Street, Chicago 50, Illinois

☐ Please have Ceco engineer bring me curtainwall data from your "library of experience."
☐ Please mail me Ceco's 1959 Curtainwall Manual No. 1069-C.

name_____
firm_____
street_____
city_____ zone_____ state_____

p/a jobs and men

(Continued from page 246)

Italy or Greece preferred by man experienced in production of working drawings. Presently employed. Last 3½ years with nationally known firm as job captain on three Multi-Million Dollar projects. Age 40. Married. Resume on request. Box 778 PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DESIGNER—Seek responsible, creative position with respected, growing, non-specialized firm. B. Arch. degree, 30, married, A.I.A. Silver Medal, co-designer of house which received Progressive Architecture design award. Five years diversified office experience on variety of building types. Presently employed by top U. S. architect. Box 779 PROGRESSIVE ARCHITECTURE.

SPECIFICATION WRITER—Extensive experience: hospitals, schools, industrial, high-rise, military, public and institutional work. Registered several states and N.C.A.R.B. Rapid, dependable, expert service. Box 780 PROGRESSIVE ARCHITECTURE.

STRUCTURAL ENGINEER—Registered, excellent background and experience. Degrees in architecture and structural engineering. Buildings, bridges, shells, prestressed concrete, soil mechanics, hydraulics, construction, rendering, teaching, promotional work; USA & Europe. Versatile and cooperative. Seeks responsible position or partnership. Detailed resume on request. Box 781 PROGRESSIVE ARCHITECTURE.

miscellaneous

ARCHITECTURAL & DESIGN PERSONNEL AGENCY—A personalized placement service for top-level architects, designers, engineers, draftsmen, estimators and interior designers; selective contacts arranged in a confidential and professional manner. Interviews by appointment. 58 Park Avenue, New York. MUrray Hill 3-2523.

BUY TOLO—precision metal castings for your scale models—many items in stock—any component can be made—any scale—any color—any quantity. Write to: TOLO INDUSTRIES, 30 E. 21st St., New York 10, N. Y. Tel.: GR 5-0194.

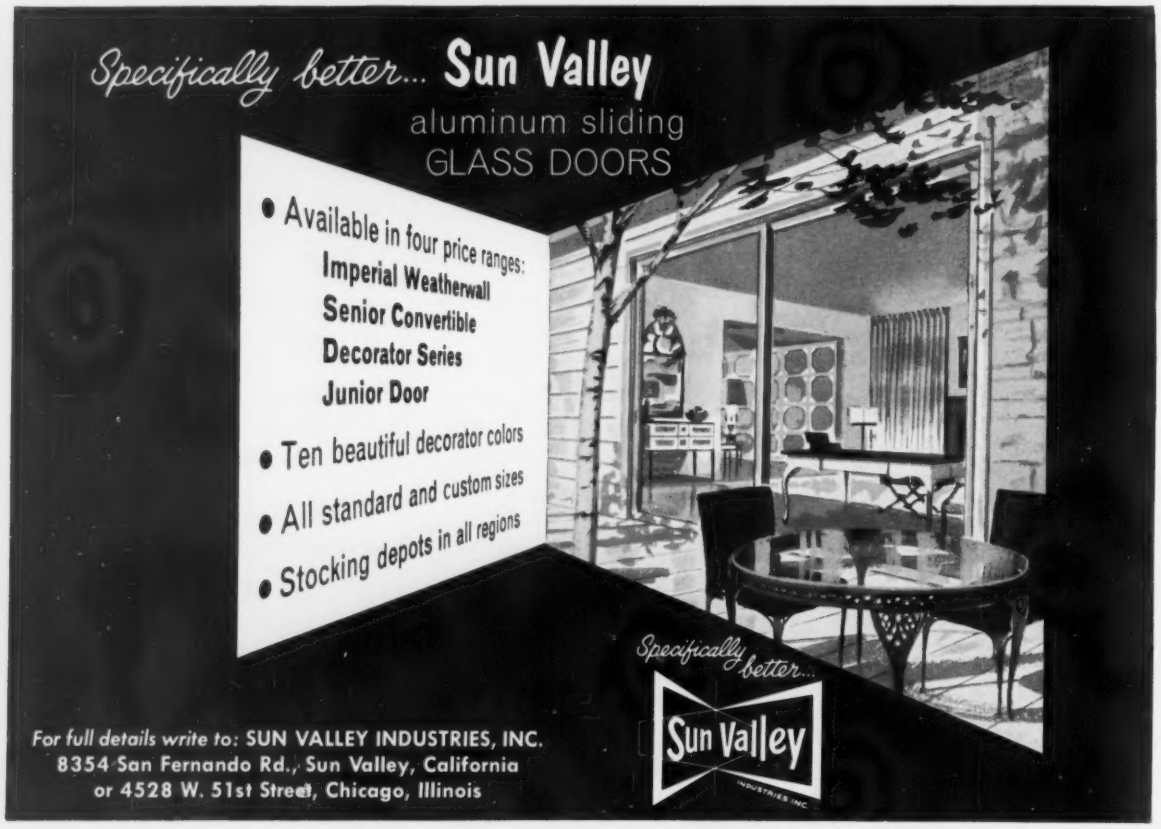
CAREER BUILDERS PLACEMENT SERVICE—for Architects, Architectural Designers, Interior Designers, Industrial Designers, Draftsmen and Office Pesonnel. Interviews by appointment. PLaza 7-6385, 35 West 53rd Street, New York 19, N. Y.

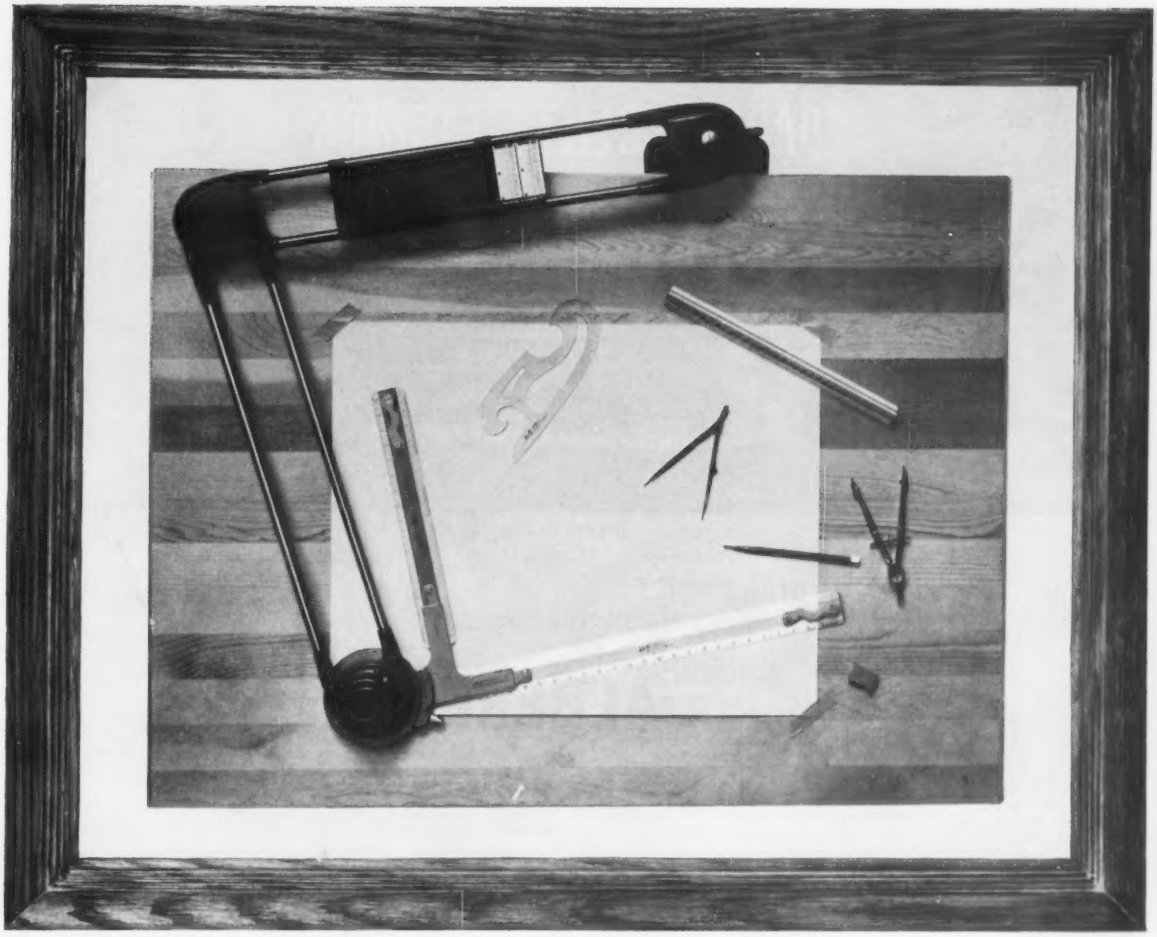
FONTAINEBLEAU SCHOOL OF ARCHITECTURE AND FINE ARTS—30 miles from Paris, in the wonderful palace of Fontainebleau. Summer school for advanced students and practicing architects. For those who want to come for two months to Europe and know all about its modern and old architecture. A course specially organized for them. Lectures and talks by leading architects and technicians. Projects. Visits to contemporary buildings and constructions; trip to the leading monuments of all styles of architecture down to the South of France. Also courses in painting, sculpture and music. Address request for catalogue: Fontainebleau Schools, 122 East 58th St., New York 22, N. Y.

HELEN HUTCHINS PERSONNEL AGENCY—Specialist Architectural, Industrial, Interior, Design; Decorative Arts and Trades; Home Furnishing Field, Architects, Designers, Draftsmen, Administrative Personnel. Interviews by appointment. 767 Lexington Ave., New York 21, N. Y. TE 8-3070.

INTERIOR DECORATION HOME STUDY—Announcing new home study course in Interior Decoration. For professional or personal use. Fine field for men and women. Practical basic taining. Appoved supervising method. Low tuition. Easy payments. Free booklet. Chicago School of Interior Decoration, 835 Diversey Parkway, Dept. 304A, Chicago 14, Illinois.

ARCHITECTURAL ILLUSTRATIONS—Offers instruction in monochrome, colored pencil and water color rendering with ten separate lessons augmented with 52 color slides. For further information send one dollar to: ARCHITECTURAL ILLUSTRATIONS, Box 782, PROGRESSIVE ARCHITECTURE.


Specifically better... Sun Valley
aluminum sliding
GLASS DOORS
• Available in four price ranges:
Imperial Weatherwall
Senior Convertible
Decorator Series
Junior Door
• Ten beautiful decorator colors
• All standard and custom sizes
• Stocking depots in all regions
Specifically better...
Sun Valley
INDUSTRIES INC.
For full details write to: SUN VALLEY INDUSTRIES, INC.
8354 San Fernando Rd., Sun Valley, California
or 4528 W. 51st Street, Chicago, Illinois



to complete the picture . . .

BRING SONNEBORN INTO YOUR PLANS NOW!

When you are ready to put your project "on the boards". . . that is the time to have all the information about the many SONNEBORN BUILDING PRODUCTS at your fingertips.

SONNEBORN has for more than 50 years produced time-tested materials designed to protect, preserve and maintain such basic materials as wood, concrete, brick.

Should you wish technical assistance in evaluating SONNEBORN PRODUCTS in conjunction with a specific problem, please write us.

L. Sonneborn Sons, Inc.
Building Products Division—Dept. P-69
404 Fourth Avenue, New York 16, N. Y.

Send your latest literature on:

- Concrete and Wood Floor Treatments ☐
- Water-Repellents and Dampproofings ☐
- Concrete and Mortar Admixtures ☐
- Paints and Protective Coatings ☐
- Also include *free* copy of your 128-page Construction and Maintenance Handbook. ☐

NAME.....TITLE.....

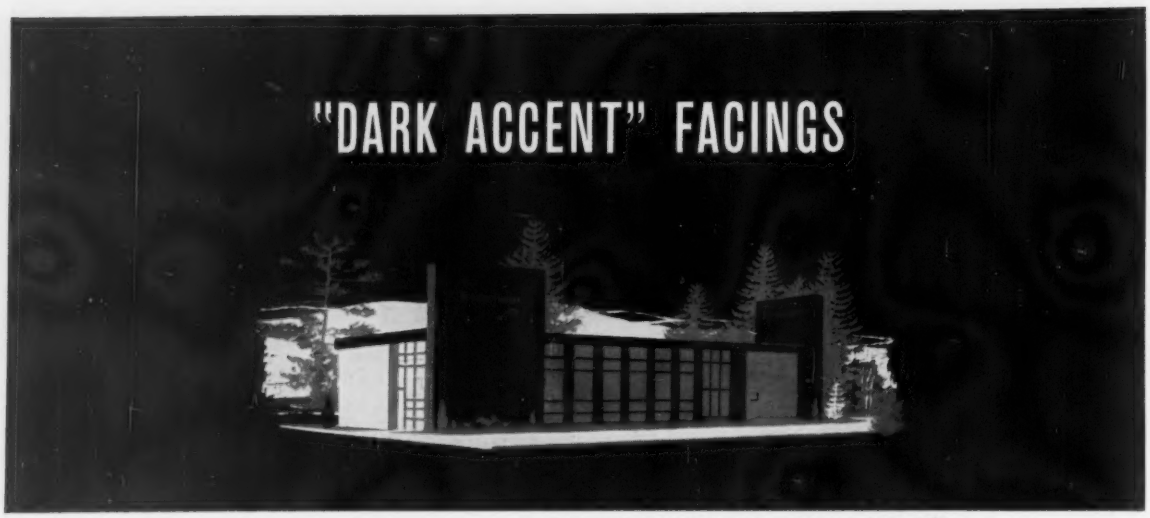
FIRM.....

ADDRESS.....

CITY.....ZONE....STATE.....

Products of Sonneborn Research

Since 1903 manufacturers of quality building products.



BELLMAN GILLETT RICHARDS, *Architects-Engineers, Toledo, Ohio.*

a natural stone
that requires no maintenance

ALBERENE STONE

For FREE literature and technical assistance address: ALBERENE STONE
(A DIVISION OF THE GEORGIA MARBLE COMPANY) 386 FOURTH AVE., NEW YORK 16, N.Y. DEPT. P

New industrial floor
for use over concrete
• Tough, durable hardwoods
• Extra thick (25/32 inch)
• Resists wear and abrasion
• Will not powder or dust
• Preserved for long-life
• Less wear and tear on power trucks
• Less damage to tools and parts
• Warmer and less fatiguing to workers
Write for folder and complete data
E. L. Bruce Co., Memphis 1, Tenn.
Bruce
BRUCE
DURA-WOOD
BLOCK FLOORS

ARCHITECTURAL ENGINEERING
A Practical Course (HOME STUDY) by Mail Only
Prepares Architects and Draftsmen
for structural portion of
STATE BOARD EXAMINATIONS

For many this is the most difficult section of the examinations. Qualifies for designing structures in wood, concrete or steel. Successfully conducted for the past twenty-two years. Our complete Structural Engineering course well known for forty-six years.

Literature without obligation—write TODAY

WILSON ENGINEERING CORPORATION
College House Offices Harvard Square
CAMBRIDGE, MASSACHUSETTS, U. S. A.

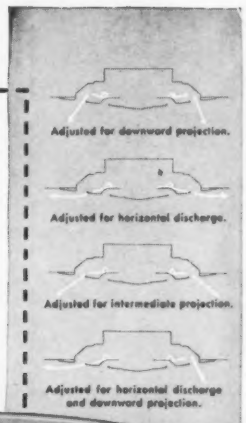
BUILDING CHECK LIST
by Ben John Small

The first complete check list of building procedure ever available. Boils down the entire checking process into 74 categories —ready to use as the basis of both preliminary and final specifications. Also includes a resume of the A.I.A. general conditions and pitfalls to avoid in writing specifications. 158 pages, 6½ x 8½. $3.50

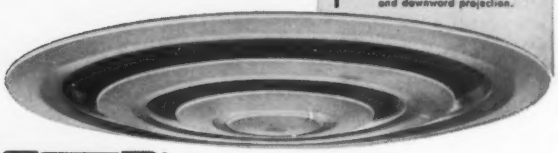
Send for a copy on approval

REINHOLD PUBLISHING CORPORATION
Dept. 5287, 430 Park Ave. New York 22, N. Y.

Take a look at a TRULY ADJUSTABLE Diffuser


Adjusted for downward projection.
Adjusted for horizontal discharge.
Adjusted for intermediate projection.
Adjusted for horizontal discharge and downward projection.

You Get Better Air with AGITAIR



AGITAIR® TYPE "OA"

Here's a distinctively different diffuser with a radically new means of controlling air direction at four different angles of discharge simultaneously. *Without changing the position of the spinnings,* AGITAIR "OA" diffusers can be adjusted to put the air where you want it in one, two, three or four directions . . . *after installation.* Result: Segmentized . . . positive adjustability with Finger-Tip Air Direction Control.

Write for Bulletin C-101

AIR DEVICES INC.
185 MADISON AVE., N. Y. 16
Air Diffusers Filters Exhausters

NEW! '59 Job Costing Guide

THE ARCHITECTS ESTIMATOR

$35.00
Just published and ready for immediate mailing!

A cost reference guide... compiled by the foremost estimator will save both time and money by knowing how to estimate construction, labor and material costs on every building project!

Just released! Up-to-date and reliable reference guide covering CURRENT building costs, answering thousands of estimating questions.

In daily use by the nation's largest corporations, engineers, building subcontractors (including mechanical and electrical) and architects. A building and maintenance *must!*

Everything in minute detail for checking building costs at "installed prices" whether yours is a major construction project, commercial, industrial plant, warehouse, or alterations or remodeling.

Compiled by the foremost professional estimator, Jacques log Cramer Priest

Order Today

The PROFESSIONAL PUBLISHING CO. of PASADENA, Dept. PA-1
P.O. Box 5205, Pasadena, Calif.

Send ____ copies of ARCHITECTS ESTIMATOR @ $35.00 each
(In Calif. add 4% Sales Tax)

Enclosed is ☐ Cash ☐ Check ☐ Money Order

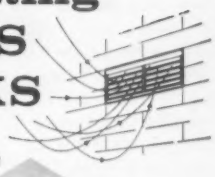
NAME _____

ADDRESS _____

CITY _____ ZONE ____ STATE _____

C-S modular ventilating BRICKS and BLOCKS

in cast aluminum



C-S cross-section shows trim louvered face and clean-cut, rugged construction, with integral cast water-stop and snugly fit screening.

neat
practical
economical
sturdy

13 different modular sizes

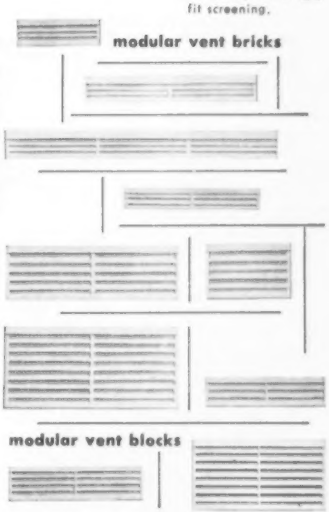
for standard and jumbo brick, and cinder or concrete block construction.

Ideal air intake for air conditioning units—for unexcavated area ventilation, roof spaces, crawl spaces, etc.

Certified tested and comply with F.H.A. requirements.

Available in a variety of finishes to meet individual project requirements.

representatives in all principal cities —*same day shipment*



Write for literature about the finest vent bricks and blocks —and complete line of accessories—available today.

CONSTRUCTION SPECIALTIES, INC. PA-6-9

East Coast
55 Winans Avenue
Cranford, N. J.

West Coast
West Grant Street
Escondido, Calif.

kindly send: ☐ literature ☐ specifications ☐ price data
☐ the name of your local representative so that we may see product samples.

Name _____

Firm _____ Title _____

Address _____

Directory of product advertisers

Advance Transformer Co. 1
Aerofin Corp. 108
Aetna Steel Products Corp. 203
Air Devices, Inc. 251
Alberene Stone Corp. 250
Allied Chemical Corp., Barrett Div. 233
American Brass Co. 215
American Gas Assn. 238, 239
American Olean Tile Co. 61
American Telephone & Telegraph Co. 31
American Window Glass Div., American-Saint Gobain Corp. 26, 27
Amtico Flooring Div., American BiltRite Rubber Co. 221, 222
Anemostat Corp. of America 66
Armco Steel Corp. 59
Arrow-Hart & Hegeman Electric Co. 241

Barrett Div., Allied Chemical Corp. 233
Bayley, Wm., Co. 18
Bell & Gossett Co. 211
Bethlehem Steel Co. 6
Bituminous Coal Institute 217
Black White Limestone Co. 56
Briggs Mfg. Co. 25
Bruce, E. L. Co. 250
BullDog Electric Products Co. 79, 81, 83
Butler Mfg. Co. 195

California Redwood Assn. 37
Ceco Steel Products Corp. 247
Celotex Corp. 179, 180, 181, 182
Challenger Lock Co. 201
Connor Lumber & Land Co. 56
Consoweld Corp. 19, 20
Construction Specialties, Inc. 251
Cookson Company 224
Corbin, P. & F. Div. 39
Curtis Lighting Co. 97

Dow Chemical Co. 98, 99
Duriron Co., Inc. 4
Dur-O-wal 44

Enjay Company, Inc. 10

Faber-Castell, A. W. Pencil Co., Inc. 246
Federal Seaboard Terra Cotta Corp. 48
Fenestra, Inc. 245
Formica Co. 52, 53

General Tire & Rubber Co., Bldg. Materials Div. 46
Georgia Marble Co. 12
Glidden Co. 91
Gilderama Div. of Whizzer Industries 100
Gotham Lighting Corp. 228
Granco Steel Products Co. 22, 23
Gray Company, Inc. 228
Guth, Edwin F., Co. 200

Hako Building Products 24
Halo Lighting Products, Inc. 77
Haws Drinking Faucet Co. 58
Hillyard Chemical Co. 8
Hobart Manufacturing Co. 191
Holcomb & Hoke Mfg. Co., Inc. 220
Homastote Company 206
Hope's Windows, Inc. 40
Hunter-Douglas Div., Bridgeport Brass Co. 95

Ingalls Industries 30
Inland Steel Products Co. 198, 199
Insulrock Co., Div. of The Flintkote Co. 209

Johns Manville Corp. 64, 216
Johnson Service Corp. 106
Josam Mfg. Co. 49

Kentile, Inc. 103
Keystone Steel & Wire Co. 230, 231
Kinnear Mfg. Co. 212
Koppers Co., Inc., Wood Preserving Div. 107

LCN Closers, Inc. 62, 63
Lehigh Portland Cement Co. 60
Libbey-Owens-Ford Glass Co. 109, 110, 111, 112, 178

Mahon, R. C., Co. 32, 33
Maple Flooring Mfrs. Assn. 194
Marmet Corp. 213
Meadows, W. R., Inc. 204, 205
Miller, Howard, Clock Co. 28
Minnesota Mining & Mfg. Co. 101

Nattco Corp. 17
National Gypsum Co. 176, 177, 223, 225
National Terrazzo & Mosaic Assn. 38
New Castle Products, Inc. 104
Nicolet Industries, Inc. 253
Norman Products Co. 14
North Carolina Granite Corp. 244

Otis Elevator Co. 55

Pass & Seymour 102
Pittsburgh Corning Corp.-Foamglas 214
Pittsburgh Plate Glass Co., Architectural Glass 234, 235
Pittsburgh Plate Glass Co., Pittco 35
Pomona Tile Co. 29
Portland Cement Assn. 36
Powers Regulator Company 196
Professional Publishing Co. 251

Reinhold Publishing Corp. 100, 240, 250
Republic Steel Corp. 226, 227
Rilco Laminated Products 202
Rixson, O. C., Co. 21
Robbins Flooring Co. 34
Roebling's, John A. Sons Corp. 16
Rotary Lift Co. 2, 3

Schundler, F. E., Co., Inc. 192, 193
Shampaine Co. 207
Sloan Valve Co. 42
Sonneborn, L. & Sons, Inc. 249
Stanley Builders Hardware 236, 237
Stromberg Time Corp. 210
Structural Clay Products Institute 41
Summitville Tiles, Inc. ..... 2nd Cover
Sun Valley Industries 248

Taylor, Halsey W., Co. The 208
Tile Council of America, Inc. 50, 51
Timber Structures, Inc. 47
Todd Shipyards 228
Trinity Div., General Portland Cement Co. ..... Back Cover

United States Ceramic Tile Co. 57
United States Steel Corp., UCO CurtainWall 219

Valley Metal Product Co. 229
Van Packer Co. 45
Vapor Heating Corp. 56
Vermont Marble Co. 190
Vogel-Peterson Co. 51

Ware Laboratories, Inc. 84
Wasco Products 242, 243
Washington Steel Corp. 54
Webster Electric Co. 218
Wilson Engineering Corp. 250
Wonder Building Corp. of America ..... 3rd Cover

Young Radiator Co. 232

Zonolite Co. 28

430 Park Avenue, New York 22, N. Y. MUrray Hill 8-8600

BRAD WILKIN, *Vice-President & Publisher*

NEW YORK OFFICE:

WILLIAM R. EVANS, *New York State District Mgr.*
ROBERT L. BASSINETTE, *New England District Mgr.*
DONALD W. THOMPSON, *District Mgr.*
KEITH ALDRICH, *Research & Promotion Mgr.*

SOUTHERN ADVERTISING REPRESENTATIVES

Atlanta, Georgia—Blanchard-Nichols-Osborn
75 Eighth Street, N. E., TRinity 5-7995

H. VICTOR DRUMM, *Advertising Sales Manager*

CLEVELAND OFFICE:

815 Superior Ave., N.E., Cleveland 14, PRospect 1-5583
JOHN F. KELLY, *District Manager*
ALBERT E. McCLIMANS, *District Manager*

JOSEPH M. SCANLON, *Production Manager*

CHICAGO OFFICE:

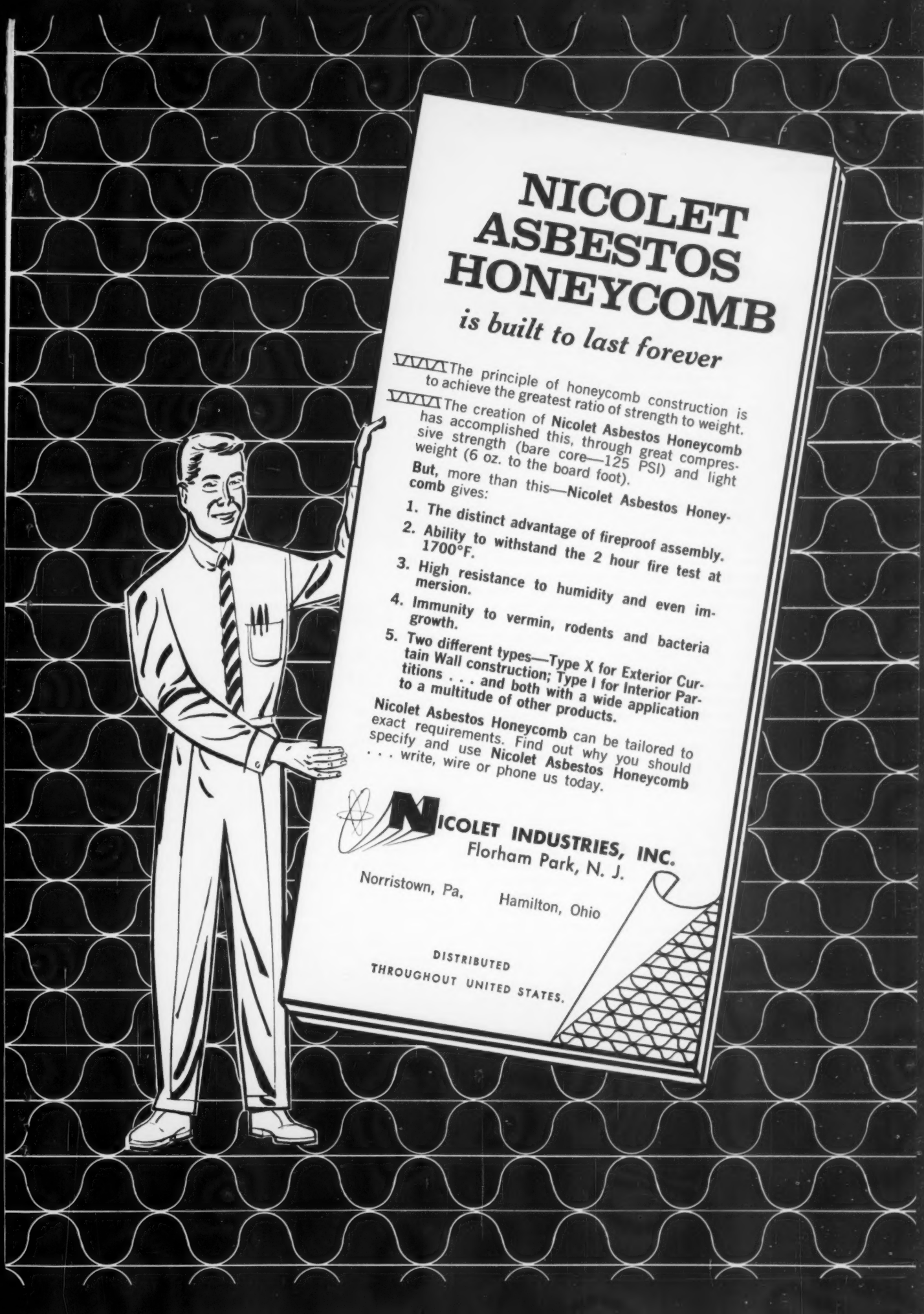
111 W. Washington St., Chicago 2, RAndolph 6-8497
ARTHUR W. GORMAM, *District Mgr.*
CHARLES A. ULLRICH, *District Mgr.*
RALPH E. PETERSEN, JR., *District Mgr.*

WEST COAST ADVERTISING REPRESENTATIVES

San Francisco, Calif.—Duncan Scott & Co., 85 Post St., GArfield 1-7950
Los Angeles, Calif.—Duncan Scott & Co., 1901 West 8th Street, DUnkirk 8-4151

LONDON ADVERTISING REPRESENTATIVE:

R. A. Butler's Advertising Service, 22 Giles High St.
London W. C. 2, England, TEMple Bar 5905


NICOLET
ASBESTOS
HONEYCOMB
is built to last forever
The principle of honeycomb construction is to achieve the greatest ratio of strength to weight.
The creation of Nicolet Asbestos Honeycomb has accomplished this, through great compressive strength (bare core—125 PSI) and light weight (6 oz. to the board foot).
But, more than this—Nicolet Asbestos Honeycomb gives:
1. The distinct advantage of fireproof assembly.
2. Ability to withstand the 2 hour fire test at 1700°F.
3. High resistance to humidity and even immersion.
4. Immunity to vermin, rodents and bacteria growth.
5. Two different types—Type X for Exterior Curtain Wall construction; Type I for Interior Partitions . . . and both with a wide application to a multitude of other products.
Nicolet Asbestos Honeycomb can be tailored to exact requirements. Find out why you should specify and use Nicolet Asbestos Honeycomb . . . write, wire or phone us today.
NICOLET INDUSTRIES, INC.
Florham Park, N. J.
Norristown, Pa.
Hamilton, Ohio
DISTRIBUTED
THROUGHOUT UNITED STATES.

P.S.

technical writing

An important aspect of professional journalism is the publication of technical articles on materials and methods of construction. Our editorial aim, of course, is to obtain and publish objective, factually correct articles which will give you technically minded readers information which would not otherwise be available to you. This is not as easy as it sounds. The sources for background for such articles, if not for the articles themselves, are:

- Architectural or enginering men, who are usually inarticulate, have not a broad enough experience to write a truly objective article, or are too busy to write for the magazines.
- Representatives of manufacturers of building materials, equipment, and products—or their press agents—who are not always objective in what they say.
- Free-lance professional writers, who are a great joy to editors when they are truly capable and know this specialized field, which is very seldom.

When a good paper comes to our attention, it is often too diffuse and involved to make interesting magazine reading. When a well written, easy-to-read piece comes along, it is likely to be too superficial and obvious for intelligent readers like you. The answer is usually a great deal of staff writing, and a quantity of ruthless editing even of the best papers.

Let's say we have decided we want to run something on new developments in paints. Burt Holmes, our Technical Editor, comes to me and says, "We haven't run anything on paints in a long time, and there have been a lot of new developments."

"OK," I say. "That sounds reasonable. What have we got to draw on?"

And Burt says: "Well, I have four possible articles. . . . First is a piece by the public-relations counsel of the ABC Paint Company. You know they're the ones that have developed that new color-card system. It begins like this: 'There have been many important new technical developments in the manufacture of paint in recent years. None is more important, however, than the improvements in methods of color selection . . .,' and so on. The second is by-lined by the chief chemical consultant to the XYZ Paint Company. You know they're the ones who have recently introduced the new mixing methods. It begins: 'There have been many important new technical developments in the manufacture of paint recently. None has been more startling, however, than the newly improved methods of mixing paint . . .,' and so on."

"What other possibilities are there for a good article?" I ask.

"Well," Burt replies, "I have a piece contributed by a man who describes himself as the outstanding consultant to consumer groups on paint problems—Prof. Harry Q. Thrugmorton, of Little Falls, Iowa. It begins: 'Glorious new horizons in paint are opening before the user and the specifier of this most important of American products. A glorious industry (which pays me well for writing this sort of stuff) is developing glorious new colors, for instance, to meet all demands of the hapless clients of our glorious decorators. And glorious new methods of mixing these glorious new colors are also at hand, thanks to the farsightedness of the leaders of this great industry . . . .'"

"That's enough," I say. "What else?"

"Well, we have a somewhat technical article by a representative of the Podunk University Research Project in Developing New Paint Materials. It starts off this way: 'At the University of Podunk a new formula for paint to be used primarily on interior metal surfaces has been the subject of a series of experiments. The paint, in extensive tests, covers well, has long nonhardening maintenance characteristics, is practically fire resistant, and can be applied by the simplest sort of an applicator. Color range promises to be wide and constant, and mixing qualities are good. So far the authorities have refused to divulge the formula for the new paint, or its basic ingredients, but a limited amount is being marketed by the RST Paint Company for field testing purposes, and can be specified as Brand X . . .,' and so on."

"That's promising," I comment. "Any other possibilities for an article?"

"Just one more," Burt answers sadly. "It's from a young architect in Iowa named Frisbee L. Sucker. His piece begins: 'It is time that the architectural magazines began telling the truth about building products. I would like to discuss, for instance, recent developments in paints and new paint materials. My article is based on field studies and tests in actual buildings. For instance, I recently specified a paint being marketed under the name of Brand X. This paint has been developed especially for use on interior metal work. Well, I specified it on the metal ductwork in a new office building that I designed, and I must admit that application was easy, the paint flowed well, colors were satisfactory and as specified, and performance generally was excellent. In fact the only trouble was that within one week it had completely dissolved a 12-foot section of 16-gage sheet metal duct . . .'"

"OK, Burt," I finally say. "*You* write the article, as usual."

Thomas H. Creighton

"Truss-Skin" Roof System — 100' x 128' — covers new Mullen High School gymnasium at Denver, Colorado.

plan BIG

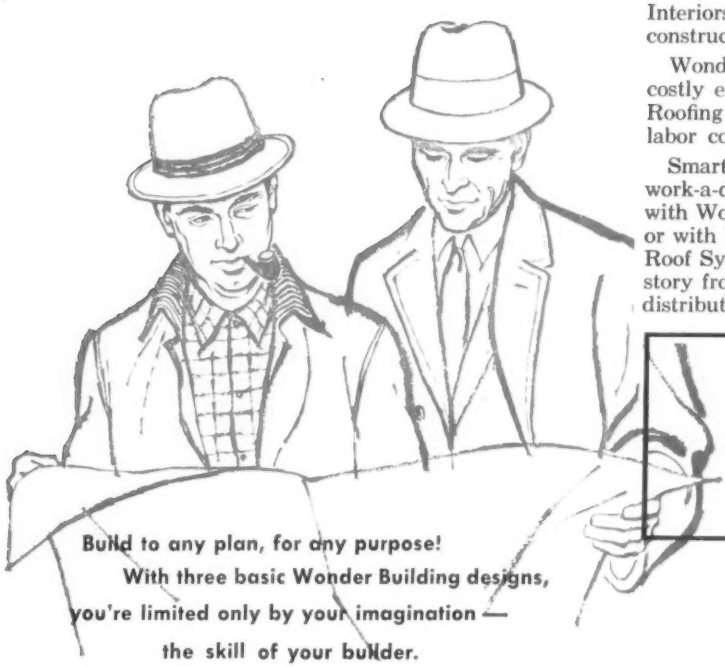
it costs less to build more with WONDER BUILDING®

No compromise on quality, strength, functional versatility when you build with Wonder Building. Here's design that adapts to meet every building requirement — with economy and speed of erection no other type building can equal!

Patented Wonder Building panels are heavy-gauge, zinc-coated steel — double-curved and corrugated to form self-supporting arches. Code requirements are met without posts, pillars or trusses. Interiors are completely unobstructed. All-steel construction means long life. Fire resistant.

Wonder Building structures cost less. No costly excavation, extensive foundations. Roofing is not required. You cut erection time, labor costs by 50%!

Smart, modern interpretations or functional work-a-day . . . you can build *more* for *less* with Wonder Building standard structures or with Wonder Building "Truss-Skin" Roof Systems. Get the complete story from your Wonder Building distributor — or write Dept. V-659.



Build to any plan, for any purpose!
With three basic Wonder Building designs, you're limited only by your imagination — the skill of your builder.

DOUBLE CORRUGATION

Patented Wonder Building panels are Coro-Crimped in small corrugations — assemble in 2-foot corrugations. Strongest building design in the industry!

"ENGINEERED TO THE MARKETS"
TRADEMARK

TRUSSLESS PATENTED Wonder Building®

TSR104

wonder building corporation of america 30 N. LaSalle Street Chicago 2, Ill.

ARCHITECTURAL Concrete Units add much beauty and distinction to the comforts and conveniences of modern office buildings. . . . The units shown here are made with Trinity White Cement. This is a true portland cement. It is the whitest of the whites. . . . Units are effective in stark, unrelieved white; or with exposed colored aggregates; or with pigment integrally mixed with the cement.

General Office Building, Shopping Bag Food Stores, Inc. • El Monte, Calif. • *Architect:* H. W. Underhill, Los Angeles • *General Contractor:* Ernest W. Hahn, Inc., Hawthorne, Calif. • *Concrete Products Manufacturer:* C. D. Wailes Co., Sun Valley, Calif.

Trinity White

PORTLAND CEMENT

A Product of GENERAL PORTLAND CEMENT CO., Chicago • Dallas • Chattanooga • Tampa • Los Angeles